

# National Safety News

APRIL 1952



See Page 23

*"Here's why my Skullgard  
is tops with me,"*

**says Louis D'Amico,  
J&L Boilermaker**



Falling from more than 30 feet, a heavy drift pin drove into the Skullgard worn by Mr. D'Amico while he was fabricating furnace floor plates at the Aliquippa Works of Jones & Laughlin Steel Corporation. The tough, laminated plastic Skullgard and the properly adjusted inside cradle stopped the pin short of Mr. D'Amico's head. Just another example of how enforced safety practice and quality safety equipment can turn an accident into an incident.

## and here's what others say about SKULLGARD PROTECTION



### SHIPYARD WORKER

"Your Skullgard saved me twice—first from a falling sledge hammer, second from a falling 2 x 4."



### TUNNEL WORKER

"I only had a couple of scratches after a 10-ft. piece of lumber falling 50-ft. hit my Skullgard. Got a new Skullgard and went back to work."

### CONSTRUCTION WORKER

"When a drill dropped from 80-ft., and picked my head for a target, I was mighty thankful for my Skullgard. I got a small cut, but was on the job the same afternoon."



### STEEL WORKER

"I walked away without a scratch after a steel wedge falling 87-ft. tore into my Skullgard."



M.S.A. Skullgards have the rugged strength that defies construction hazards... plus engineered headbands that can be adjusted to a perfect fit. And their comfort-qualities encourage full-time hat use. Ask for Bulletin No. DK-15.

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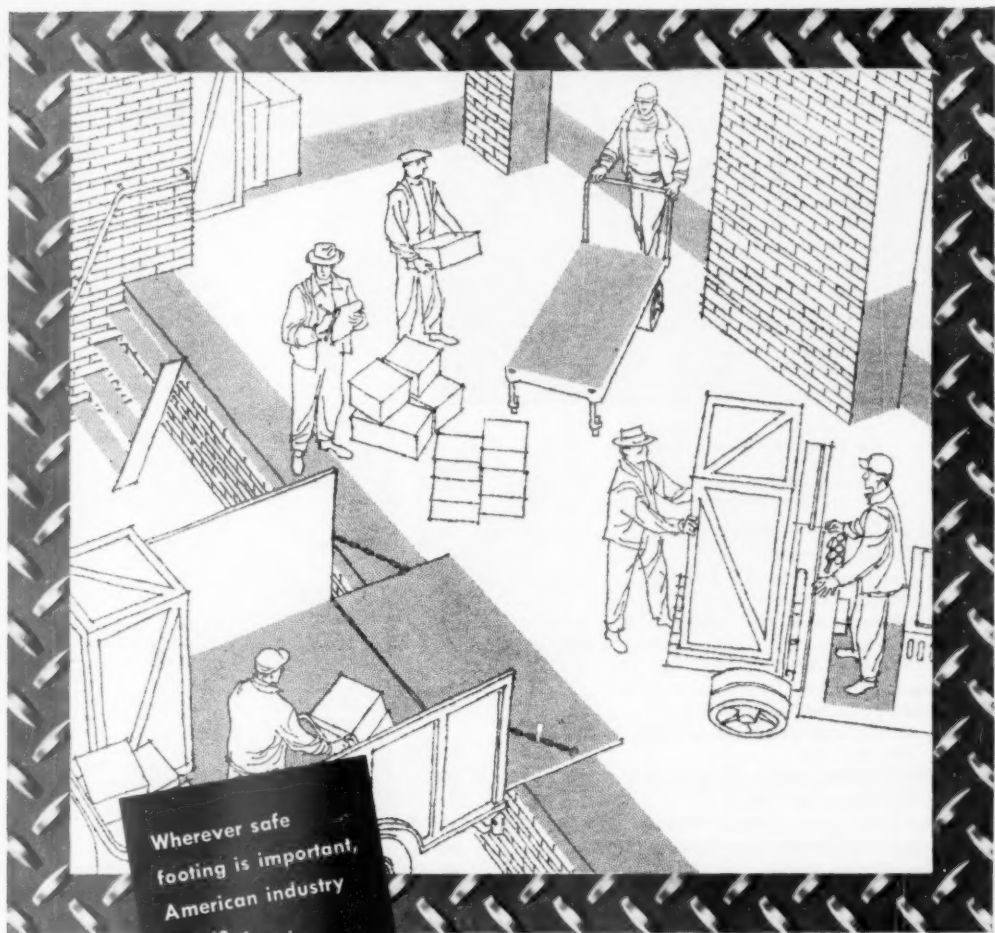
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**MINE SAFETY APPLIANCES CO. OF CANADA LIMITED**

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SAFETY EQUIPMENT HEADQUARTERS  
**MSA**

Call the M.S.A. man on your every safety problem  
... his job is to help you.



Wherever safe  
footing is important,  
American industry  
specifies . . .

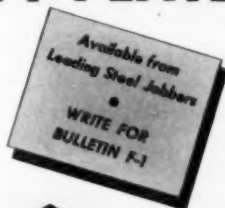
## INLAND 4-WAY SAFETY PLATE

*Safety pays off*—in personnel, plant and product! You gain man-hours, lower insurance rates, greater fire protection and happier workers.

Each danger spot indicated above can be easily, quickly and economically made *safe* with

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Use 4-WAY SAFETY PLATE for sure footing on all danger spots in your plant and as standard equipment on your product.



Available from  
Leading Steel Jobbers  
•  
WRITE FOR  
BULLETIN F-1

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PRODUCTS: Sheet, Strip, Tin Mill Products, Bars, Plates, Structural Shapes, Sheet Piling, Reinforcing Bars,  
Pig Iron, Rails and Track Accessories



# National SAFETY NEWS

Published monthly by  
National Safety Council

APRIL 1952

Vol. 65, No. 4

THE COVER: The birthplace of the safety movement. The Hotel Pfister, Milwaukee, where the First Co-operative Safety Congress was held in 1912. (Courtesy The Milwaukee Journal, photo by Bob Taylor.)

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BILL ANDREWS, *Editorial Director*  
NORVAL BURCH, *Associate Editor*  
TOM DODDS, *Associate Editor*  
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CARMAN FISH, *Editor*  
ROBERT L. MEYER, *Associate Editor*  
(On military service)  
C. H. MILLER, *Advertising Manager*

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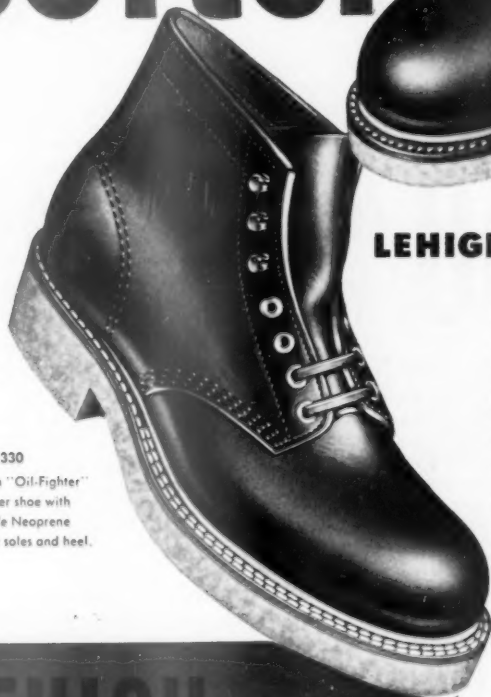
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# make any job softer



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3-eye tie "Oil-Fighter"  
blucher oxford with  
long, seamless vamp.  
Neoprene crepe sole  
and heel.



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6-inch "Oil-Fighter"  
blucher shoe with  
double Neoprene  
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HERE'S REAL STYLE APPEAL for the hard to-sell man who still looks down his nose at safety shoes! Crepe soles... today's top-selling sport shoe style with young men everywhere... bouncy and comfortable as a shoe can be. It's *neoprene* crepe - impervious to oil - sure-footed as a cat - wears like iron. And they still provide Lehigh's time-tested steel protection that keeps toes safe on the job. Attractively priced, too!

NO METAL IN THE OUTSOLES  
—WON'T SCRATCH PLANE WINGS  
or other smooth fabricated parts.

**LEHIGH**  
SAFETY SHOE COMPANY  
ALLENTOWN, PA.

# NO OTHER EYE SHIELD



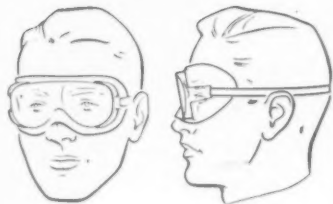
BAL-guard's crystal-clear one-piece acetate lens can be replaced in a matter of seconds. Lens is snapped in or out of place. Cannot be jarred loose.



Another unique feature is BAL-guard's 2-way indirect ventilation insuring a minimum of fogging, greater efficiency.

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No other all-plastic coverall eye shield on the market can meet the all-in-one performance tests of BAL-guard. Each function of an ideal all-plastic coverall was researched exhaustively, then incorporated in its design—protection, ease of use, comfort, economy. BAL-guard exceeds U.S. Bureau of Standards requirements for protection against impact, guards against dust and splash. Many BAL-guard features are exclusive—features not attainable, even singly, in any other make. Combined in BAL-guard, they meet an infinite demand for high-quality, flexible protection at low cost. Available with clear or transparent green lenses; clear, green or opaque frames, BAL-guard may well be the answer to a number of eye safety problems in *your* plant. Ask your Bausch & Lomb distributor for a sample, or write direct to Bausch & Lomb Optical Co., 90304 Smith St., Rochester, New York.



BAL-guard is molded to fit any average face comfortably. It may be worn over regular glasses, or over corrective safety lenses mounted in acetate or metal spectacle-type frames.

**The brand new Bausch & Lomb**



# BAL-guard

**ALL-PLASTIC  
EYE SHIELD**

**Used in wide variety of  
applications throughout industry**

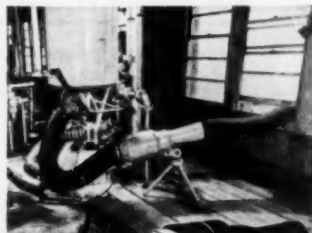
**Improve workers' safety ...  
health ... comfort ... efficiency**



**VANO DESIGN "A" VENTILATOR** is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8" diameter flexible canvas tubing ("Ventube").



**VANO DESIGN "B" VENTILATOR** here discharges welding fumes from double-bottom compartment in naval vessel under construction. Large volume of air handled quickly expels fumes and results in good ventilation. Vano Design "B" can pass through opening only 14" in diameter. Uses 8" diameter flexible canvas tubing ("Ventube").



**VANO DESIGN "C" VENTILATOR** here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8" suction inlet for 8" non-collapsible suction tubing — or multiple inlet nozzles for 5", 4", and 3" suction hose. The discharge may be connected to 8" "Ventube." Capacities furnished on request.



**NO. 2 AEROPLANE HEAT KILLER** here directs cool, fresh air on worker in drop forge plant. Heat killers restore workers' efficiency by providing extra ventilation in the hot months, or on any job where workers are continually or periodically required to work in excessive heat. Available in two types, three sizes in each.



**VENTAIR DESIGN TE-4 VENTILATOR** Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8" diameter flexible canvas tubing ("Ventube").



**PORTAIR NO. 4 BLOWER EXHAUSTER** exhausts fumes resulting from soldering, welding, tank coating. It is also used in ventilating small tanks. It is designed to permit attachment of 4" flexible metal hose. Capacity: 425 CFM free air.

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Please send me information on supplying fresh air to men working:

- |  |  |
|--|--|
| <input type="checkbox"/> in tanks, tank cars, drums, etc.    | <input type="checkbox"/> on boiler repair jobs   |
| <input type="checkbox"/> in underground cable manholes       | <input type="checkbox"/> around cracking stills  |
| <input type="checkbox"/> in aeroplane fuselages, wings, etc. | <input type="checkbox"/> exhausting welding fumes  |
| <input type="checkbox"/> on coke ovens                       | <input type="checkbox"/> stirring up stagnant air wherever men are working or material is drying |
| <input type="checkbox"/> on steam-heated rubber processes    | <input type="checkbox"/> drying of walls, sheets, etc., after treated with coating material      |

**COOLING:**

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|---|
| <input type="checkbox"/> motors, generators, switchboards |
| <input type="checkbox"/> wires and sheaths                |
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Name .....  
Company .....  
Address .....  
City ..... Zone ..... State .....

Write here any special ventilating problem you may have {

# Stonehouse Stock Worded JUMBO Danger Tags



Above: Just a few of the 88 JUMBO stock-worded Danger Tags, ready for prompt shipment. Write for complete Tag Bulletin.

## TAG IT!

Stonehouse Jumbo Danger Tags are ideal for use on switch boxes, valves, machines and other locations where a temporary, forceful warning is needed • also to quickly provide warnings until the proper permanent signs can be secured.

Jumbo size: 4x7½ inches. • Made of special tough, heavy Tag stock, to resist wear, water, etc. • Can be easily written on with pen, pencil or crayon. • Each Tag is fitted with a long, strong cord for tying on.

The wordings shown in this catalog are available from stock for prompt shipment. Special wordings furnished. • A sample of any stock Tag sent free.

100 Stock Tags of the same wording.....	\$3.85
50 Stock Tags of the same wording.....	2.75
100 Stock Tags, assorted wordings.....	\$5.50
50 Stock Tags, assorted wordings.....	3.85

Less than 50 Tags, \$.11 each

ADD 15% TO ALL PRICES SHOWN



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**FOR  
SKILLED  
PERFORMANCE  
BY  
UNSKILLED  
OPERATORS**

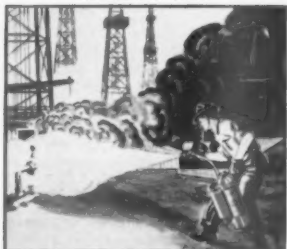
**INDOORS AND OUTDOORS  
YOUR *BEST* PROTECTION  
FOR FLAMMABLE LIQUID, GAS  
AND ELECTRICAL FIRES**

# ANSUL

**DRY CHEMICAL  
FIRE EXTINGUISHING  
EQUIPMENT**



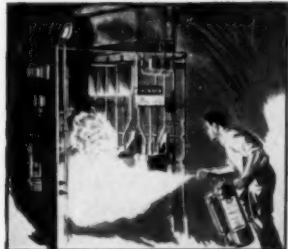
TEXTILE LINT FIRES



FLAMMABLE LIQUID FIRES



GAS FIRES



ELECTRICAL FIRES



ANSUL  
Model 20-B

- HAND PORTABLES
- 
- WHEELED PORTABLES
- 
- STATIONARY EXTINGUISHERS AND PIPED SYSTEMS
- 
- TRUCK MOUNTS, TRAILERS AND SELF-PROPELLED UNITS
- 

Ansul Dry Chemical Fire Extinguishing Equipment has world-wide recognition as preferred protection for flammable liquid, gas and electrical hazards. Yet a surprising number of Ansul Extinguishers are used to protect textile mills and paper mills against serious loss from surface fires such as occur in textile lint and combustible paper dust. The textile and paper making industries rely on Ansul Extinguishers for quick control of dangerous flash fires in class "A" (ordinary combustible) materials. Any remaining embers are quenched with small quantities of water, thereby keeping water damage at a minimum. Surface fires in textile lint and combustible dusts spread rapidly. They need quick control. If you have serious lint or dust hazards, talk with your Ansul representative. He may have suggestions to reduce fire damage and lost production time.

Send for File No. 916. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes—from the small Ansul Model 4 to Ansul Piped systems and Ansul 2000 lb. Stationary Units.



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CHEMICAL COMPANY**  
FIRE EXTINGUISHER DIVISION  
MARINETTE • WISCONSIN

OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES  
ALSO MANUFACTURERS OF INDUSTRIAL CHEMICALS, REFRIGERANTS AND REFRIGERATION PRODUCTS

**3 better ways  
to fight fires...**

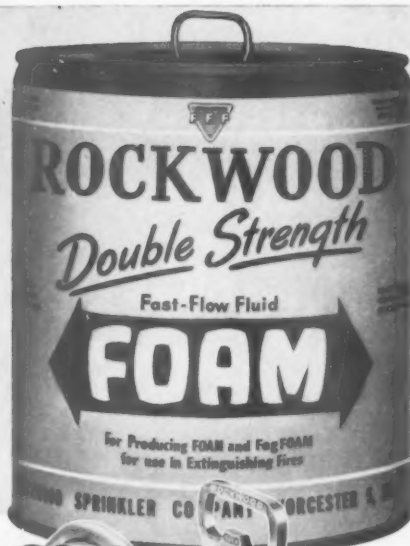
**ALL WITH  
ONE NOZZLE**

- 1 Fog FOAM**
- 2 Solid FOAM stream**
- 3 High Velocity WaterFOG**

Rockwood Double Strength FOAM Liquid used thru Rockwood FFF FogFOAM Nozzles enables fire fighters to cover burning surfaces with a blanket of FOAM faster and more efficiently. The 3 methods — 1. FogFOAM, 2. Solid FOAM Stream and 3. High Velocity WaterFOG combined in the one FFF FogFOAM Nozzle will give you a better weapon for extinguishing and controlling fires in gasoline and other flammable liquids and materials.

Rockwood FOAM Liquid and FogFOAM Nozzles are now being used to fight large running gasoline fires and spill fires in oil refineries, fires in oil storage tanks — or for crash-rescue fire fighting at airports and also for municipal and industrial fire fighting requirements. All these hazards require special proportioning systems for discharging the FOAM Liquid. Custom engineered proportioning systems to meet such unusual requirements is a Rockwood specialty. For complete data and prices write today.

Remember, the most efficient way to apply Rockwood FOAM Liquid and Wetting agent to most fires is thru Rockwood fire fighting devices.



New Lightweight type FFF FogFOAM Nozzle with FogFOAM screen attached. Available in three sizes for service on 1½" and 2½" or 3½" hose.

(1.) Thru the FogFOAM screen a wide pattern of FogFOAM can be applied directly to the burning gasoline without harmful agitation to the surface. This means faster and more efficient extinguishment of fire. FogFOAM screen can easily be attached or removed.



(2.) Thru FOAM shaper a solid FOAM stream can be projected to reach fires at considerable distances. FOAM Shaper can also be easily attached or removed.



(3.) If FOAM Liquid supply is exhausted, the Rockwood FFF FogFOAM Nozzle will discharge a wide pattern of High Velocity WaterFOG.



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SPRINKLER COMPANY  
72 HARLOW STREET  
WORCESTER 5, MASS.**

**PORTABLE FIRE PROTECTION DIVISION**

WILLSON GOGGLES

keep you on the safe side

- Fitted with Super-Tough heat-treated glass lenses or Willson Plas-Tough plastic lenses
- Wide range of Cup, Cover-All and spectacle types
- Complete line of Plastic eye protection
- Comfort features throughout to get them worn
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Dependable Products Since 1870

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for chipping, grinding and snagging.



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Heavy-duty; plenty of room for prescription glasses.



**Cover-All Type Welding Goggle CW60**  
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For chemical workers; rolled inner edge gives snug fit.



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Wide vision replaceable plastic lens... flexible polythene frame for comfort.



**Leather Mask Goggle DL31**  
Deep cups, well ventilated, for hot jobs.



**Hi-Line Safety Spectacles Style AV**  
Attractive metal frames; temples above the line of vision.

Fitted with Super-Tough\* heat treated glass lenses or Willson Plus-Tough plastic lenses

\*T.M. Reg. U.S. Pat. Off.

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**SAFETY SUPPLY COMPANY**

Toronto Winnipeg  
Montreal Edmonton  
Windsor Vancouver  
Kirkland Lake Halifax

*"LISTEN! THERE IT IS AGAIN! IT'S LOST!"*

## The Call that Saved a Plane

**How an alert telephone operator  
helped a military transport plane land in  
a snowstorm in the dead of night**

A heavy snow was falling in the winter darkness when Mrs. Lucille Wilson, night operator at Alamosa, Colorado, heard the sound of a low-flying airplane. It was well past midnight and Mrs. Wilson knew that the last scheduled airliner had gone over many hours before.

Then she heard the sound of a low-flying plane again as it circled back over the town.

A light flashed on Mrs. Wilson's switchboard. Soon as she said "Number please" an anxious voice said — "This is Ralph Zook, dispatcher down

at the railroad depot. Did you hear a plane? Didn't sound right, somehow. It's flying pretty low."

"I heard it, too," said Mrs. Wilson. "And there's no plane scheduled this time of night."

"That plane could be in trouble," said Mr. Zook. "We ought to do something about it."

"I'll try to reach someone to turn on the lights at the airport," said Mrs. Wilson. "Listen! There it is again! It's lost!"

Quickly Mrs. Wilson went into action. She called the airport, the government weather station, and a private flying service. But no one answered.

Then she reached Stamy Edmisten, an airline employee, at his home. He rushed to the airport and turned on the landing lights. A few minutes later a C-46 military transport loomed out of the snowstorm and came in for a safe landing. Thirteen men stepped from the plane, none the worse for the experience.

What could have been tragedy was prevented by quick-acting Ralph Zook and Stamy Edmisten and the alert, cool-thinking operator, Mrs. Lucille Wilson—one of about 650,000 telephone men and women guarding and serving America, twenty-four hours a day, in every kind of weather.

**BELL TELEPHONE SYSTEM**



The landing lights were turned on and the big C-46 came safely to earth.

# SAVE *with* CHEEPEE



## SAVE EYES

Cheepee goggles are made of shatterproof acetate, molded in one piece to give positive, close-fitting eye protection. Plastic lens exceeds federal specifications for optical quality and resistance to breakage. Cheepee goggles are comfortable to wear, too! They weigh less than one ounce and fit over most style glasses. Available in clear or green.

## SAVE MONEY

Cheepee goggles are the lowest cost, one-piece acetate, *quality* goggles in their field. Start saving with Cheepee — now!



A PRODUCT OF

**WATCHEMOKET OPTICAL CO., INC.**  
PROVIDENCE • RHODE ISLAND

IN CANADA • LEVITT-SAFETY LIMITED, TORONTO 10, MONTREAL 1

# QUICK KO!

## -TO FLAMMABLE LIQUID FIRES



### ALFCO FOAMITE AIRFOAM



The Foamite Airfoam-Generating Nozzle produces Foamite Airfoam by the scientific mixing of water, air and Foamite Airfoam solution. Light in weight, the nozzle can be moved about easily when fighting a fire.

The Foamite Airfoam it produces blankets fire with a thick, stable insulation which shuts off oxygen and smothers fire quickly and easily—and it *stays* smothered! It extinguishes fire in both ordinary free-burning materials (Class A fires) and combustible materials (Class B fires). It floats on the surface of burning liquids, quickly surrounds obstructions, and clings to solids. It prevents reflash.

Foamite Airfoam Liquid operates with fresh or salt water; with hot or cold water; will not ferment or mold; is not susceptible to decomposition from bacteria; is noncorrosive; available in 3% or 6% solution.

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# NATIONAL SAFETY NEWS

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APRIL 1952

## NUMBER FORTY

**T**HIS year we will hold the Fortieth National Safety Congress. Thousands of delegates and hundreds of speakers will take part. Facilities of five great Chicago hotels will be strained to handle the meetings, and scores of hotels will house delegates. More than a hundred exhibitors will display their wares.

In 1912 a far smaller group of men met in Milwaukee a month before the election in which Woodrow Wilson defeated Taft and Teddy Roosevelt. They were humming "Alexander's Ragtime Band," fuming about the fact that here and there a daring lady was seen smoking in public, remembering grimly the tragedy of the "Titanic" the previous April.

One hotel, the Pfister, was more than adequate to handle all the meetings of the First Cooperative Safety Congress, a meeting organized under the auspices of the Association of Iron and Steel Electrical Engineers.

It was a meeting, not of a great, thriving movement, but of a small group of far-sighted pioneers in the field of industrial safety. Men like Lew Palmer, who really made this first Congress come into being; like Will Cameron, who was to be the great organizer and administrator of the safety movement from its birth to full, adult stature; men like Ralph Richards of the North Western Railroad; Dr. Joseph A. Holmes of the Bureau of Mines; John Kirby, president of the National Association

of Manufacturers; Robert W. Campbell of Illinois Steel, who would soon be the National Safety Council's first president.

Most of the leading participants in the First Cooperative Safety Congress are gone. But there must be a goodly number who attended that Congress as young men and women who are still with us, either as active safety workers or as retired elder statesmen of our movement.

Elsewhere in this issue you will find the Council's official invitation to all who attended the Milwaukee Congress of 1912 in any capacity to attend the banquet of the Fortieth National Safety Congress and Exposition in Chicago October 22, as guests of the Council.

We who have inherited the great tradition, and, we hope, some of the zeal and wisdom, of those who founded the safety movement in the United States, want to pay our respects to these pioneers.

And we hope to show them that we still believe in the deep significance of the word "cooperative," which Lew Palmer put in the title of the first Congress. It is a word which the National Safety Council, as long as I am president, will try to honor in both word and deed.

I will take it as a great personal favor if you will let us know the names and addresses of any participants in the 1912 Congress, so that we may extend them our cordial invitation for this year's Congress.

*Ned H. Dearborn*



Operation and maintenance of new types of plant and tools, exemplified by this isolated radio relay tower and equipment, introduces new safety problems in the Bell System's far flung operations.

By ERLE S. MINER

## Safety Along the HIGHWAYS OF SPEECH

**T**HE COMMUNICATIONS industry is four and one-half times safer than the average for all industries. It has been consistently in first place in National Safety Council reports, and Bell

System experience predominates in this industry. Operating companies of the System have not only been at the top in safety results but have also continued to improve during each of the last seven years.

The part played by teamwork is well illustrated by the safety achievements during these years of progress.

Some Bell System companies operated year after year with accident frequency rates as much as five times higher than others. The difference was marked, even though they all performed the same type of work, used the same types of tools, and employed the same caliber of personnel.

Such variations became even more perplexing when it was real-

ized that the companies had all indicated interest in eliminating accidents and have had safety programs. Furthermore, there were no secrets nor patented processes concerning any part of those safety programs. This is an activity wherein there is full cooperation and interchange of ideas, plans, and programs between Bell System Companies and other industries.

We know now that there is no one answer to that question. It can be found only through studying the successful practices and procedures of the groups and departments and companies having the best safety records.

Let's look, then, at some of the basic philosophy, developments,

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ERLE S. MINER, safety engineer at headquarters of American Telephone & Telegraph Co., has been with the Bell System since 1922. Starting that year with Southwestern Bell at Topeka, Kans., he was transferred to A. T. & T. in 1929. He has held numerous offices in Public Utilities Section, NSC, including that of general chairman for 1943-44. This article has been condensed slightly from one published in Bell Telephone Magazine.

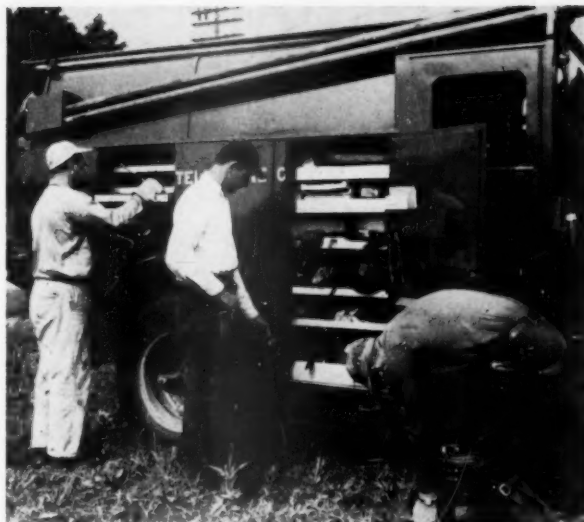
and activities which make up the present safety programs of Bell System companies.

#### Acceptance of Responsibility

One of the companies having an outstanding safety record for a long period of years has expressed briefly the fundamentals of its safety program: (1) impress on every individual his responsibility for his own safety, and (2) impress on supervisors at every level their responsibility for the safety of their people.

This is another way of saying what company executives have said in substance more than once in recent years: "The over-all problem is the lack of sufficient active direction to correct violations and disregard of accepted safe working practices," and "Top management should give full measure of interest and direction to accident prevention responsibilities."

This means that to the extent to which each member of the staff is responsible for operations, to the same extent is he or she responsible for the safety of such operations. When a department head is given a job, the safety of every employee goes with it. Every chief operator, commercial manager, engineer, foreman, or group leader is responsible for the employees he or she supervises.



Telephone company engineers have incorporated safety in the design and maintenance of trucks and other motor-vehicle equipment. The hundreds of tools carried on this truck are neatly arranged in compartments on the sides and in the back of the truck. As a safety feature, most compartments are on the right, or curb side, of the truck.

And every person has the responsibility of doing his work safely and of doing what he can do to protect himself, his fellow employees, and the public. This "acceptance of responsibility by everyone is the key to improved safety. It is Number One in importance.



An individual trained in first aid develops a sense of responsibility for his own safety and the safety of others. Telephone men are making use of their training in emergencies and in civil defense programs.

#### Proper Thinking

While they had not been dubbed "public enemies" or "murderous beliefs," certain concepts had been recognized as making the prevention of accidents unnecessarily difficult.

These six misleading beliefs as described by President Ned H. Dearborn of the National Safety Council are:

1. The "Other Fellow" Concept. This is the assumption that an accident may happen to the other fellow but never to us; that we are smarter, or luckier, than the other fellow, and that accident victims must be "dopes."

2. The "Your Number's Up" Concept. Some have the philosophy that an accident either happens or it doesn't; that "your number is up"—or it isn't.

3. The "Law of Averages" Concept. People shrug off accidental death and injury, feeling that a certain number of persons are doomed to destruction despite reasonable precautions.

4. The "Price of Progress" Concept. It is often said that accidents are the natural price paid for progress—that people have to be maimed or killed as the price for modern living.

5. The "Spirit of '76" Concept. Some people hold that safety precautions are



Sleet storms make heavy demands on public utility men. Their training and skill enable them to restore service quickly with the minimum of risk.

inconsistent with the spirit of our forefathers—and, worse, that accident prevention is cowardly.

6. The "Act of God" Concept. Some folks feel that an accident is an act of God, inflicting divine punishment on us and our loved ones.

While these six murderous beliefs, in some variation or other, have hindered the progress of accident prevention, there are also such alleged causes as climatic conditions, increased size of force, accident proneness, age, length of service, and hard luck. It has been found that the accidents assigned to these classifications are also preventable through well administered safety programs.

#### Attitudes and Behavior

A study of accidents in the telephone industry has indicated that the greatest improvement in safety will continue to come from special attention to the "human factors."

Here are a couple of recent cases which illustrate the point:

A switchboard operator, on

reaching the fifth step from the bottom of the stairs without holding on to the hand rail, caught the heel of her shoe in the hem of her skirt and fell to the bottom of the stairs. She received a scalp wound and a wrenched shoulder, necessitating four weeks' absence.

Two repairmen on a job following a severe wind storm parked their truck and proceeded to check for a broken telephone drop wire. One repairman took hold of a wire which was hanging low over some brush.

That was a fatal error. He had mistaken a 2,300-volt power wire for the telephone drop wire. Two pairs of rubber gloves were on the truck, but had not been used.

These cases illustrate accidents that would have been avoided if employees had kept alert and followed the ordinary, accepted safety practices.

#### Cooperation and Teamwork

Whenever quantity and quality of production are at a high level, misunderstandings are few and accident records are good. This situation can be traced to supervision of high order in this matter of understanding and working harmoniously with people. The aim of human relations in safety activities is to provide positive and effective leadership so that the group will want to work cooperatively toward eliminating accidents.

Haste, carelessness, abstraction, forgetfulness, and poor attitude which may lead to accidents can be known to a supervisor if he

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Safety instruction helps men to work with head, hands and heart.

# CALLING ALL PIONEERS!



Milwaukee's Hotel Pfister, scene of the First Cooperative Safety Congress, as it looked about 1912. (Courtesy Milwaukee County Historical Society.)

**I**F THAT FADED, battered photograph above doesn't look familiar to you, this article isn't for you.

Under the wrought-iron marquee in the picture walked the delegates to the First Cooperative Safety Congress, September 30 through October 5, 1912. Inside Milwaukee's Hotel Pfister, the sessions of the Congress and the first of the long series of National Safety Congress banquets were held.

At the banquet a resolution was passed and a committee appointed which led to the formation, the following year, of the National Industrial Safety Council, which shortly dropped one word from its name.

On October 20 to 24, 1952, the National Safety Council will convene the 40th National Safety Congress and Exposition in Chicago. On October 22, at the Conrad Hilton (formerly the Stevens) Hotel, the 40th Congress banquet will be held.

It is the earnest wish of the National Safety Council to have present at that banquet just as many participants in the 1912 Congress as humanly possible.

The Council's staff is making every effort to reach the safety

men and women (yes, there were women at safety congresses, even in 1912), who attended that first meeting in Milwaukee. We would appreciate hearing from you if you were in attendance in *any capacity*, or if you know anyone who was.

We mean that "any capacity" literally. If you were a big-wig speaker or a rank and file delegate, a delegate's wife, a child, a waiter, or even if you were one of those who washed the banquet dishes, we have a place reserved for you at the banquet.

But, *please*, write and tell us about your connection with the Congress. The records of that meeting are fragmentary, and we know few of the names except those of the speakers, chairmen and committee members. So you probably won't hear from us unless you let us know that you were in attendance.

In the pages of NATIONAL SAFETY NEWS in coming months, you'll be hearing a great deal about the First Cooperative Safety Congress. Here, there is room only for the briefest summary of the important facts:

The Congress was called by the Association of Iron and Steel Electrical Engineers. This association

was one of the first in the country to establish a safety committee, and that committee was headed by the late Lew Palmer.

Mr. Palmer, then serving as the first safety director for the Jones Laughlin Steel Corporation, conceived the idea of holding a national congress for safety, and did heroic labor in bringing this idea to reality. It was not just a steel industry safety meeting. Men from the railroads and other industries were there. There were federal and state government officials, medical men and ministers.

Out of the discussions at the Congress came the following resolution:

WHEREAS, the Association of Iron & Steel Electrical Engineers regarding as worthy of particular attention the hazards to life involved in electrical operations in steel mills, and appreciating the importance of the General Safety Movement not only in electrical engineering, but also in the steel industry as a whole, and in all the other varied and important industries of our country, and having met with such prompt co-operation in their proposals to establish a National Organization devoted to securing increased safety to human life, have reached the conclusion that such an organization can best be brought about by action at this joint meeting of the Association of Iron & Steel Electrical Engineers and the Co-operative Safety Congress, and it is, therefore, hereby

RESOLVED, That the President of the Association of Iron & Steel Electrical Engineers be requested to take the first steps toward the foundation of a National Organization for the promotion of safety to human life by appointing a Committee on Permanent Organization, which shall contain representatives of the Federal and State Agencies already established to supervise conditions of safety in our industries, and shall also contain representatives from the Mining, Transportation and Manufacturing Industries in the United States, and be it further

RESOLVED, That the Committee so appointed shall be and hereby is authorized by this Congress to organize and create a permanent body devoted to the promotion of safety to human life in the industries of the United States; this Committee to have authority to call future Congresses of safety, increase its

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Charles P. Cutler, district manager,  
Republic Steel Corporation.



Scene in the open hearth at Republic's South Chicago works.

## The Supervisors Present 6,000,000 Safe Man-Hours

A safety committee in session. Left to right: Russell I. Pisle, superintendent of industrial relations; S. E. Anderson, assistant superintendent; J. W. Tysse, safety supervisor; T. R. Alexander, supervisor of compensation; Miss H. R. Hewitt, R. N., head nurse; W. E. Lloyd, Jr., training supervisor; J. F. Dwyer, fire marshal; D. F. McNeilly, supervisor of social insurance; R. J. Gabry, insurance clerk; J. S. Mannion, employment manager.



By WILLIAM N. DAVIS

AS STAFF representative for the Metals Section, I am interested in the spirited safety contest which is conducted by the section annually. I am naturally proud of the records which many companies have set up in this contest. While I do not have the chance to check with each participant, I can't help but notice some of the reports that come through.

When the final results started

WILLIAM N. DAVIS is Senior Engineer, Industrial Department, NSC and Staff Representative, Metals Section.

to come through on last year's contest, I noticed particularly the record of the South Chicago plant of Republic Steel Corporation. That outfit won the first place trophy in the Group B Steel Mills Section, with a frequency rate of .70.

For approximately eight months they had amassed in excess of six million man-hours without a disabling injury. This is a truly remarkable record when the varied hazards in a completely integrated steel plant employing between 4000 and 4500 people are considered. A completely integrated steel plant is one that produces finished steel products from raw materials such as iron ore, limestone, coal and coke.

A day or so after I was looking this record over, J. W. Tysse, safety supervisor for this plant, called me. During the conversation I thought of the record and asked

Maintenance man keeps padlock on the controls while he is working on the machine. Like every other man in the plant he is wearing goggles at work.



Switch controlling baler is suspended on cord. To operate, the operator must maintain pressure on the push button.

Jim the secret; how come they set such a record? After the modest remarks that are to be expected from a steel man, Jim told me that it all happened because their foremen and superintendents accepted their responsibility for preventing accidents. He invited me to come out to the plant and spend a day with him to see how their program worked.

Everyone I talked to at this plant seemed to have that same idea, from the district manager, C. P. Cutler, down to the foremen in the mills, the men on the shipping dock, the crane men and others. They all had this to say: "We're working at this job from the angle of prevention—stop the accident before it happens — we stop the unsafe acts which cause accidents."

The first thing I found out was that the entire program at the South Chicago plant is just one part of the over-all program worked out by the safety department in Republic steel and manufacturing plants and coal and iron ore mines throughout the country. The program described in this article is practically the same one that is carried out at all Republic installations. That this program has paid handsome dividends is evidenced by the fact that in the

last Metals Section contest 23 of 34 Republic plants won awards.

I talked to Russell I. Pisle, superintendent of industrial relations. Russ told me that the first day a new employee arrived at the plant to go to work he was given a safety talk.

The new man was told that it was his responsibility to see that he performed no unsafe acts and caused no unsafe conditions to occur in the area where he was working.

There was one thing I noticed about the foremen in this plant. They were not picked to be foremen simply because they could get out production and knew their jobs in their own departments only. They were men who could get along with people and see that their departments operated smoothly.

I was particularly impressed with the housekeeping in every department. The foremen are, of course, responsible for housekeeping; and the safety program ties in with this responsibility. These foremen accept responsibility for accident prevention, and they work at it.

The foremen, as would be expected, know how every job in their departments should be done

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Water rips the bark from a log in the Bellingham, Wash., plant of the Puget Sound Pulp & Timber Co.

## Labor-Management Teamwork

By BILL ANDREWS

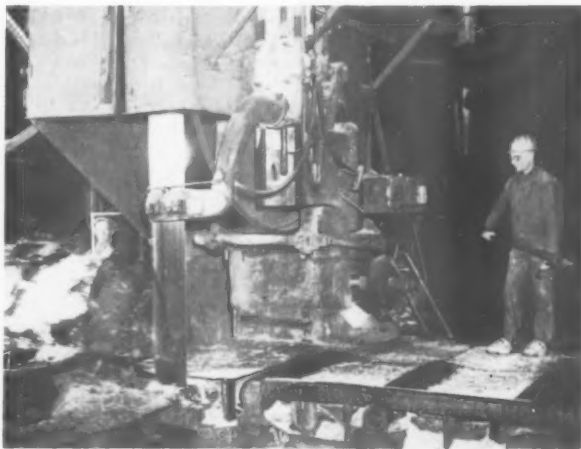
**Six years of dramatic safety progress and harmonious labor-management relations mark West Coast pulp industry's cooperative accident prevention program**

**THIS** is a success story!

It is the story of a 78 per cent slash in accident frequency rates in a large industry in six years. And it is a success story which was brought about, according to the leaders of the industry, primarily by the use of wise techniques for developing labor-management cooperation.

I've been a wandering reporter of safety programs for a long time. I've tramped the mills, ridden the ships, studied the car barns, the front offices, the open hearths and the assembly lines.

In any report of a safety program that's worth the name, the subject of the relationship between management and employees takes a prominent part. And in my articles, I have reported on these human relations as I saw them—in all their infinite variety.



Certain types of pulp require sawmilling operations like the band sawing operation shown. But West Coast pulp plants go far beyond normal sawmill safety efforts. Note hard hats, goggles on offbearer, safety glass guard for sawyer. Photo taken in Rayonier, Inc., plant at Shelton, Wash.



Labor and management point with mutual pride to the statistical evidence of safety progress. A. E. Brown (left) is vice-pres., Int. Brotherhood of Paper Makers, and Boyd K. Wickwire, Longview Fibre Co., was chairman of the 1951 labor-management safety conference in Washington.

In this article, on the safety achievements of the pulp and paper industry on the West Coast, the center of attention is, and must be, the techniques for developing formal cooperation between the management association and the unions of the employees.

It is, as I have said, a success story. I don't pretend that it offers a uniquely desirable pattern for other industries in other areas to follow. Elsewhere on this page you'll find the National Safety Council's statement of policy on management-labor cooperation for safety. I buy that statement, not just because I am an employee of the Council, but also because as a reporter I've seen excellent safety work done under many different forms of cooperation between the management that directs and the labor that does the job.

So, this is not an article about the way to obtain cooperation. It is an article about one way to get it, which worked well in one situation.

The story starts, for me, in the office of Sid Grimes, secretary of the Pacific Coast Association of Pulp and Paper Manufacturers. I

went to see Sid because the men who know the West Coast told me something of the Association's record—of a frequency rate cut from 39.19 in 1945 to 8.81 in 1951—a cut of more than three-quarters.

Sid, along with Otto Hartwig of Crown Zellerbach and Dan Adair, the National Safety Council's wood products representative and former safety chief for the

State of Washington's Department of Labor and Industries, laid out the basic facts. All three of these men had been through the critical years of progress-making in the industry. All three had been in the front line, plugging for the kind of cooperation that they believed would pay off in human welfare, dollars and cents, and improved labor relations.

And, believe me, there is a powerful dollars and cents angle. In Oregon, for example, the manual rate of the state Industrial Accident Commission for the pulp and paper classification was \$2.50 per \$100 of payroll in 1944-46. Since then compensation benefits and medical costs have just about doubled. But the present manual rate is just \$1.80.

So I said, "How come? What happened? Who did it?"

The answer I got from Sid, Otto and Dan was a spectacular example of buck-passing in reverse. Nobody would grab the credit for himself or his organization. Each was eloquent about the others' contribution. One point they did agree on, that a large share of the credit belonged to the labor unions in the field, and such labor leaders as John Sherman, Ivor Isaacson and A. E. Brown.

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#### EXCERPTS FROM THE PROGRAM FOR LABOR-MANAGEMENT COOPERATION FOR SAFETY

(Approved unanimously by labor and management representatives at the 1946 National Safety Congress)

... The promotion of safety should be just as definite an objective of labor as wages and working conditions.

Management actively should seek labor's cooperation in its safety work . . .

The cooperation of workers should be sought without detracting in any way from the need for expert and professional safety guidance in the plant . . .

Management has the basic responsibility for safety and the safety program. Labor recognizes that its cooperative efforts must be dovetailed into the management structure with recognition of the authority of management, that run concurrently with its basic responsibility . . .



Air view of Strathmore Paper Company's Mill, West Springfield, Mass.

## Safety Trends in the Pulp and Paper Industry

By HAROLD R. ALLEY

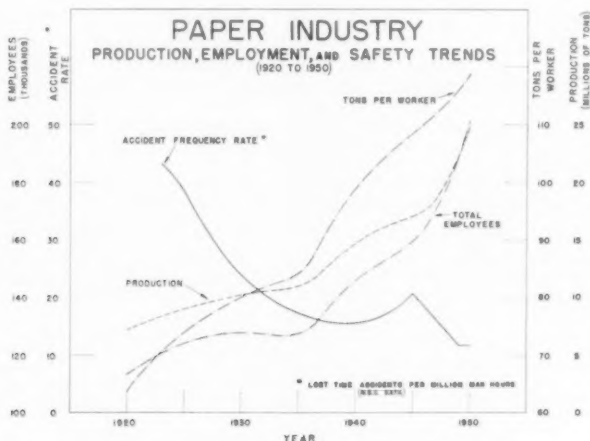
**T**HE Pulp and Paper Industry is one of the larger industrial activities in the world today. This industry is normally considered to include pulpwood logging and the

manufacture of pulp, paper, paperboard, and a multiplicity of converted paper and allied products. Although the statistics presented in this article relate primarily to

U. S. production, many other countries such as Canada, Australia, Japan, France, Sweden and England account for tremendous tonnages of paper products.

**History and Growth.** Paper was first made by the Chinese in the first century A.D. and is one of our oldest American enterprises. As late as 1920, papermaking was called an art. Today it is recognized as just another mass production business, and ranks sixth with respect to value of products. Technology, management know-how, tremendous investments, high speed and wide width machines, cooperative workers, and market demands for new products have all contributed to the growth of the industry.

The growth of the Pulp and Paper industry compares favorably with the growth of all American industries or manufacturing establishments.



Production, employment and safety trends in the paper industry.

HAROLD R. ALLEY, who handles safety matters for the Pulp and Paper and the Glass and Ceramics industries, is one of 12 sectional representatives on the National Safety Council's Industrial Department staff. These staff representatives assist with new publications, participate in executive committee work, make a limited number of plant visits annually, and help members in all parts of the world on technical problems via correspondence.

Mr. Alley's experience in the pulp and paper industry has brought him in contact with many large mills in the United States and Canada and in the Orient. In addition to his technical background, he is one of the better chess players on the NSC staff.

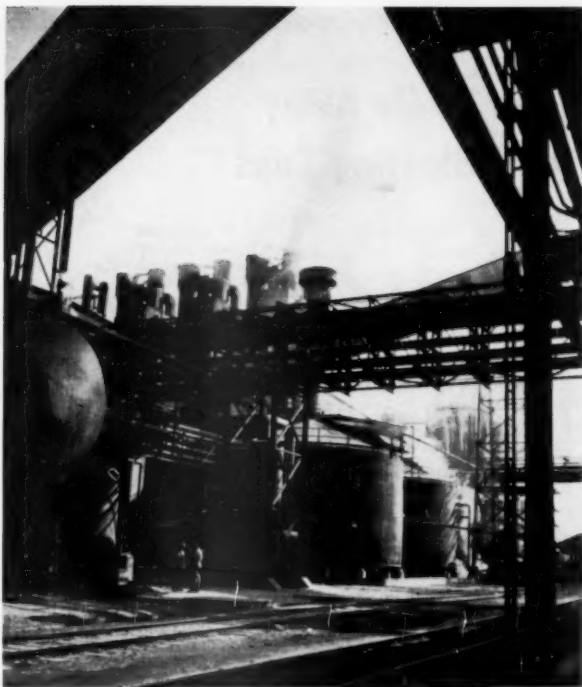
Available publications for the Pulp and Paper Industry are too numerous to be listed in an article of this scope. Some 70 new safety aids for the industry are now in process and under consideration by the executive committee. The purpose of this article is to sketch the size and growth of the industry and outline some of the efforts being put forth to improve the over-all accident experience. It is hoped that articles on other industries will be available in the near future.



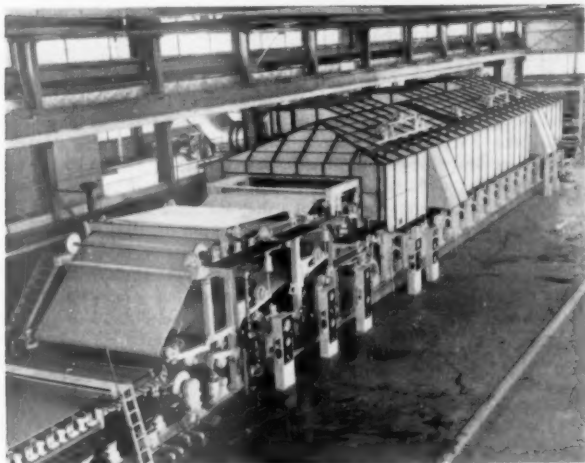
Harley B. Goodrich, maintenance and safety engineer, Strathmore Paper Company; general chairman, Pulp and Paper Section, National Safety Council.



An interesting angle of one of the huge mills of Champion Paper and Fiber Co.



A modern paper machine used in manufacturing light-weight tissues.



**Present Size.** The U. S. Bureau of Census indicates that there are over 4,100 establishments with 449,833 employees in the Paper and Allied industries. There are about 1708 Fourdrinier, cylinder,

and forming machines. There are 226 pulp mills and 665 paper and board establishments (1947).

In 1950 according to the Bureau of Census and Bureau of Labor Statistics, our paper and board

machines were operated by 205,000 productive workers at 99 per cent capacity, to produce 24,377,222 tons of paper and paper-board products. This production is equal to 118 tons per worker per year and indicates that every pulp and paper employee is personally responsible for the annual production of about 236,000 pounds of paper or board items. This is a tribute to American machines and men, especially when we realize that hand-made paper production per worker in certain Far East localities today is only about 4,000 pounds per year.

**Products and Markets.** Over 700,000 uses for paper have been listed. Paper is so commonplace that we often forget its usefulness in our newspapers, books, memos, envelopes, magazines, advertisements, posters, billboards, packages, grocery bags, shipping containers, bread wraps, napkins, facial tissues, toilet paper, letters,

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## Keep Radio Away From Blasting Caps

IF YOU DO blasting, keep radio away from blasting caps. Radio frequency energy from such sources as radio broadcasting stations, 2-way radios, television transmitters, FM stations, radar, shoran, micro wave relays and high powered amateur transmitters, can under certain conditions set off blasting caps without having any physical connection with the blasting circuit.

A case of premature detonation occurred on a seismic shooting boat equipped with a 50-watt transmitter operating on 1,602 kilocycles. Transmitting antenna was strung horizontally between two masts 25 feet above deck. Firing circuit was of such length that it was tuned nearly to resonance with the transmitter frequency. Steps taken to prevent a recurrence were the use of a vertical antenna, grounding of the transmitter, and prohibition of transmission while connected caps are on deck. This case, although the only one of its kind on record, prompted intensive study by manufacturers of blasting caps and radio equipment.

Tests with 15 to 50-watt 2-way mobile transmitters showed sufficient induced current within several feet of the antenna to constitute a hazard. In the vicinity of a 5,000 watt broadcasting station operating at 610 kilocycles, it was found that under certain conditions all common types of electric blasting caps could be detonated through absorption of radio energy in the blasting circuit. These conditions occurred when the leading wires were within 300 feet of the antenna towers, properly oriented, and sufficiently long.

In general the amount of radio frequency current induced in a

No. 47 radio pilot light with socket, test leads and clips to be attached in the blasting circuit in place of blasting cap.



circuit will vary directly with the power of the transmitter and inversely as the square of the distance from the source. Other factors which determine the amount of induced current in a blasting cap circuit are:

**Length of the Circuit**—The critical lengths are (1) straight lengths equal to  $\frac{1}{2}$  the radio wave length of the transmitter (the half wave length in feet equals 500,000 divided by the frequency in kilocycles) or multiples thereof, having the cap in the center, and (2) straight lengths equal to  $\frac{1}{4}$  the radio wave length, or an odd (3, 5, etc.) multiple thereof, with one end grounded and the cap near that end. These lengths are critical and any significant variation will make it unlikely that dangerous amounts of current can be induced in the circuit.

**Orientation of Circuit**—Maximum energy will be produced when the wires are parallel to the antenna of the transmitter. Current will be less in wires lying on the ground than in those suspended above ground.

**Transmitter Frequency**—Low frequency stations are a greater potential hazard than those using high frequencies because conditions for transfer of energy are more critical with higher frequencies.

Detonation will occur when the induced current approximates the amount required in a regular blasting circuit, 0.30—0.40 ampere, either AC or DC. A simple and positive test to determine whether the radio frequency hazard is present is to place a No. 47 radio pilot light in the blasting circuit in place of the blasting cap. If it glows at all, use "Primacord" and regular cap and fuse.

Radio broadcasting stations with their relatively high outputs of energy and their locations in areas where blasting may occur constitute a major hazard. However, the increasing use of 2-way radio transmitters by mobile crews that do blasting is considered a greater potential hazard.

The Forest Service of the United States Department of Agriculture has issued the following instructions to their radio users and blasting crews:

1. If electric caps are within 300 feet of any 2-way radio transmitter, keep tightly enclosed in an all-metal can. Never open can when transmitter is in use.
2. Never carry caps in a pickup or car equipped with 2-way radio, unless they are in an all-metal can. This can shall consist of a 24 gauge iron box.
3. Do not use a radio transmitter within 300 feet of any electric blasting.

The State Industrial Commission of Oregon and several forests have issued similar instructions.

Recent cooperative studies by DuPont and several radio manufacturers have determined the following minimum distances for use of electric blasting caps near transmitting equipment:

Transmitter Power (watts)	Minimum Safe Distances (feet)
5- 25	100
25- 50	150
50- 100	220
100- 250	350
250- 500	450
500- 1,000	650
1,000- 2,500	1,000
2,500- 5,000	1,500
5,000- 10,000	2,200
10,000- 25,000	3,500
25,000- 50,000	5,000
50,000-100,000	7,000

This table is based solely on transmitter power. The distances provide a substantial factor of safety even for the worst possible conditions.

When electric caps are transported in vehicles equipped with mobile radio transmitters, they are considered safe from detonation by radio frequency energy if they are left in their 'as purchased' condition. Tests and theoretical considerations show that the methods of packaging the caps involve wire lengths and configurations that provide virtually ideal protection against induced current. The effective lengths of the folded or coiled wires are a matter of inches, whereas the radio half-wave lengths necessary for 'tuning' the caps to the radio circuits range from 2.3 feet (216 megacycles) to 924 feet (540 kilocycles).

When transporting caps in the field, if the original package, as received from the manufacturer is altered, or if additional protection is desired, the following precautions should be taken:

1. Place the caps in a totally enclosed metal box lined with wood or sponge rubber. The metal provides a shield against radio frequency energy. The lining protects against shock and friction.

2. If within the minimum safe distances given in the table, have the transmitting equipment turned off when caps are being put into or taken out of the box.

DuPont in their *Blasters Handbook* offers the following recom-

## Visitor from Bombay



MRS. FRENY IRANI, labour welfare officer for Bombay Municipality, was a recent visitor to the National Safety Council headquarters in Chicago. She consulted with industrial safety specialists to get information of value in operating a safety program among the municipal workers.

The majority of these employees are street cleaners, members of the untouchable caste. Because custom in India calls for segregation of untouchable from high-caste members, the municipality

houses these employees in special housing projects. Employee safety for the municipality, therefore, has substantial off-the-job aspects.

Mrs. Irani spent several weeks in Canada and the United States in gathering information of value in her work.

With Mrs. Irani (left) in the above illustration are Roy C. Benson, assistant manager of the National Safety Council's Industrial Department, and Miss Alice C. Mills, director of women's activities.

mendations in connection with the use of electric blasting caps near radio transmitters:

1. If within the recommended safe distances, the blasting circuits should be laid out with a No. 47 radio pilot lamp inserted in place of the cap. This type of lamp lights to full brilliancy with 0.15 ampere, but electric blasting is not advised if any glow at all is observed. Rather "Primacord" and regular cap and fuse should be used.

2. Radio-frequency pickup in the blasting circuit can be minimized by avoiding one-half wave lengths or their multiples (the half wave length in feet equals 500,000 divided by frequency in kilocycles), laying wires on the ground but insulating them from it, and avoiding placement of caps in the centers of long, straight lengths of wire.

3. Aboard ship, radio transmission should be prohibited, or prevented by

suitable interlocking devices, while electric blasting caps are connected and in a hazardous location. Cap wires of 100 feet in length or longer should be used. The charge should be put overboard and allowed to drift away the full length of the wires before removing the manufacturer's shunt and connecting to the firing lines.

Although no experimental work has been done on them, it is obvious that shoran, radar, etc., present much the same hazards as radio. It is recommended that the precautions listed above also be followed in such cases.

This article was compiled by J. E. APPEL, supervisor of safety, Commonwealth Edison Company, Chicago, and a member of the Executive Committee, Public Utilities Section, NSC.

# For Distinguished Service

National Safety Council announces first awards  
under its newly established Award Plan

**L**ISTED below are the first companies to qualify for awards under the new plan recently adopted by the National Safety Council's Industrial Conference and Board of Directors. Detailed information on the standards for these awards was presented in the February NATIONAL SAFETY NEWS, and this information may be obtained from the National Safety Council.

Briefly, the highest award is the *Award of Honor*, which replaces the older Distinguished Service Award, and goes to companies which complete 3,000,000 accident-free man-hours, and also to companies which meet a rigorous set of statistical standards for excellent safety work, even though they do have some accidents.

The *Award of Merit* has similar but less severe requirements. The

number of accident-free man-hours must be between 1,000,000 and 3,000,000, and the standard of excellence for awards when accidents occur has been similarly reduced from the *Award of Honor* level.

The *Certificate of Commendation* is given only for perfect no-accident records covering a period of one or more calendar years and involving exposure of from 200,000 to 1,000,000 man-hours.

The awards reported below are only the first installment of those to be granted in 1952. Others will appear in successive issues of NATIONAL SAFETY NEWS.

With this beginning of the publication of the awards under the new plan, NATIONAL SAFETY NEWS is ending publication of its "Honor Roll" department.

## Awards of Merit

American Seating Co., Grand Rapids, Mich.

B. B. Chemical Co., Middleton, Mass.  
Bethlehem Steel Co., Fabricated Steel Construction Div., Buffalo Works.

Bethlehem Steel Co., Fabricated Steel Construction Div., Rankin Works.

Bethlehem Steel Co., Bethlehem Cornwall Corp., Concentrator Plant, Lebanon, Pa.

Bethlehem Steel Co., Bethlehem Pacific Coast Steel Corp., Fabricated Steel Construction Div., South San Francisco.

Bethlehem Steel Co., Nagney Quarry.  
Bethlehem Steel Co., Fabricated Steel Construction Div., Leedsdale Works.

Bethlehem Steel Co., Patapsco Scrap Corp., Baltimore.

Bethlehem Steel Co., Shipbuilding Div., Quincy Yard.

Bethlehem Steel Co., Williamsport Plant.

Canadian Refractories Limited, Kilmar, P. Q.

Carolina Aluminum Co., Badin, N. C.  
General Mills, Inc., Minneapolis Flour and Feed Mill.

General Mills, Inc., Rossford Feed Mill.

General Mills, Inc., Buffalo Feed Mill.

General Mills, Inc., Los Angeles Mill, Sperry Div.

General Mills, Inc., Belmond Soybean Processing Plant, Chemical Div.

General Tire & Rubber Co., Baytown, Tex., Plant.

B. F. Goodrich Co., Port Neches, Tex., Plant.

Goodyear Tire & Rubber Co., Lincoln Div.

Goodyear Tire & Rubber Co. (South Africa), Limited, Port Elizabeth, S. A.

Goodyear Tire & Rubber Co., Clearwater Mill No. 3, Cartersville, Ga.

Goodyear Tire & Rubber Co., Limited, Quebec, P. Q.

Goodyear Tire & Rubber Co., Jackson, Mich.

Goodyear Tire & Rubber Co., Los Angeles.

Kingan & Co., Indianapolis Plant.

National Biscuit Co., York, Pa., Bakery.

North Carolina Pulp Co., Plymouth, N. C.

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## Awards of Honor

American Enka Corp., Lowland, Tenn., Plant.

Bethlehem Steel Co., Bethlehem, Pa., Plant.

Bethlehem Steel Co., Fabricated Steel Construction Div., Bethlehem Works.

Bethlehem Steel Co., Fabricated Steel Construction Div., Chicago Works.

Bethlehem Steel Co., Fabricated Steel Construction Div., Steelton, Pa., Works.

Bethlehem Steel Co., Lackawanna, N. Y., Works.

Bethlehem Steel Co., Shipbuilding Div., Baltimore Yard.

Bethlehem Steel Co., Shipbuilding Div., Staten Island Yard.

Chatham Manufacturing Co., Elkin, N. C.

Crosse & Blackwell Co., Baltimore, Md.

The Firestone Tire & Rubber Co., (Entire company.)

Stanley G. Flagg & Co., Inc., Stowe, Pa.

General Mills, Inc., Mechanical Div., Minneapolis, Minn.

General Motors Corp., Detroit, Mich. (Entire company).

Goodman Manufacturing Co., Chicago.

The Goodyear Tire & Rubber Co., Akron, Ohio, Plants.

The Goodyear Tire & Rubber Co. of Alabama.

The Goodyear Tire & Rubber Co. of Great Britain, Ltd.

Companhia Goodyear de Brasil.

Gulf States Paper Co., Tuscaloosa, Ala.

Mersey Paper Co., Ltd., Liverpool, Nova Scotia.

The Pittsburgh & Conneaut Dock Co., Conneaut, Ohio.

The Procter & Gamble Manufacturing Co., Chicago Plant.

The Procter & Gamble Manufacturing Co., Port Ivory, Staten Island, Plant.

Ralston Purina Co., Montreal, P. Q., Plant.

U. S. Steel Co., Pittsburgh, Pa. (Entire company.)



## Boy in the Rain

(Fiction)

By BILL ANDREWS

April 2, 1952

THE RAIN WAS COLD, wind-driven, stinging.

The green blades of the new tulips stood in sharp contrast to the mud-grey of the old sod.

The old words about ashes and dust were hard to hear above the wind and the sobbing of the women.

They were old words to me, and the wind-swept, rain-swept cemetery was an old scene, even the sobbing of the women was old, almost as old as the smooth mask of sorrow on the well-fed face of the undertaker's assistant.

My words to the widow were just as old—the expression of admiration for the departed, my sympathy for the family, my offer,

in the name of the company, of any help that might be needed.

I walked back to the car, with Harry Dexter, my young assistant, in step beside me. I looked into his face and saw that to him this was no old, bitter scene to be swallowed with expert haste to avoid gagging on the bitterness.

To him it was brand new. To him it was the first funeral in the history of the world concerning which he had to ask himself, "Did I make this happen?"

The boy looked as if he was going to be sick. And I remembered, out of the dulled memories of my youth, the components of that sickness—first, the question—"Did I make it happen?" Then the surge of resistance and rebel-

lion against the idea, the start of the building of the elaborate structure of defense against the charge, the outlining of the impassioned plea by the defense attorney (self) in rebuttal to the accusation of the prosecutor (again, self), to sway the judge and jury (self, all self). Then, unsaid, the defense cracks like rotten plaster under a leaky roof, peeling, falling suddenly to smash the head and smother the face. And one of the components is the weeping women and another is the sleek undertakers. And the minister's words, tho no part of the sickness, are wind-blown, lost in the sobbing, far from shaping an image of hope in the mind.

How much of that was Harry's, I don't know. I only know it was in me at my first funeral of personal responsibility, and that the boy, walking in step beside me today, looked as sick as I felt on another rainy afternoon 14 years ago.

In the car, I couldn't bring myself to try to kid him out of the mood. Someone tried that on me that first time, and then I was sick. Instead, I drove out of town and started talking as we hit open highway.

"Face up to it, Harry. Face it this time, because you'll go through it often," I said.

He looked and sounded like a guy near tears. "You understand then? I thought maybe I was nuts, that I was the only guy who ever let it get him. I felt as much like a sissy as I did the first time I gave first aid to an amputation and nearly heaved."

I didn't say anything.

Harry went on, "Then maybe you know. I can't see how I could have been smart enough to stop it—but I did inspect that shop the day before. I did see the naphtha, did mention it to the foreman. You know all that; it's in my report, and I'm in the clear as far as the law, the company, maybe even you are concerned.

"But am I in the clear as far as those women back there are

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# The SAFETY VALVE

## Spring Song

*To dig and delve in nice clean dirt  
Can do no mortal any hurt.  
Who works with roses soon will find  
Their fragrance budding in his mind;  
And minds that sprout with roses free—  
Well, that's the sort of mind for me!*

—JOHN KENDRICK BANGS

\* \* \*

## Old Stuff

ONE OF THE SHORTCOMINGS of publications is that they're so afraid of repeating themselves. They seem to think every reader has read — and remembered — everything they've published.

So says R. O. Eastman, of New York, who runs a research organization in New York and sends out thought-provoking letters to prospective clients.

Of course, it isn't literally true. Editors do repeat themselves, but they always feel guilty about it. It is little less than criminal to dish up old stuff, or even dress up old ideas in new clothes.

If that is really a crime, a lot of us editors are getting away with murder. But Mr. Eastman is very comforting.

It's a form of conceit, he insists, that makes us think people read and remember everything we print, or that we couldn't improve on something we said a year ago.

The lifeblood of a magazine, he adds, is an annual crop of new readers. Most of these new readers are starting from scratch and need some indoctrination. And even old-timers can stand an occasional refresher course.

"Pick up your current issue," says Eastman. "Fancy yourself a brand new reader to whom somebody has recommended your magazine as a way to learn the ropes in a new field."

We in the safety movement are always warning supervisors not to get tired of telling their people the safety story over and over again. But do we take our own prescription?

No. We're so afraid sophisticated readers will look down their noses at us.

Look over programs of past Safety Congresses, and you will find that the old familiar subjects are still being warmed up for receptive audiences. Safety men are still discussing basic problems discussed at the first Safety Congress in Milwaukee in 1912. And most of us could read that first volume of Congress Transactions with interest and profit.

Incidentally, this isn't the first time I've written a piece on this subject for this page.

## On Our Bus

NORMALLY, the ride between Park Ridge and the Loop isn't eventful. Passengers chat, doze, read their papers, or look hopefully out the windows for signs of spring along the outer drive. Their relaxation may be regarded as indicating confidence in the skillful and friendly drivers.

For years United Motor Coach has had an energetic safety program and many of the drivers have won safe driver awards. But their records are continuously at the mercy of anybody who's in a hurry to get wherever he's going.

And this morning it happened! A Chevrolet made a left turn just in front of our bus and the operator didn't have a chance. Now, I can sympathize with anybody who has to make a left turn off a through street in the morning rush, but it can often be avoided by driving a couple of blocks to an intersection with traffic lights.

Well, the Chevy, minus a right tail light but not much damaged otherwise, pulled up to the curb. The driver was about 98 pounds of fuming nitric acid which she sprayed on the bus operator and the delegation of passengers who had accompanied him for moral support.

Don't know yet how the case will be settled but all of us were glad to sign cards stating we had not been hurt and giving our honest opinion on responsibility for the accident.

## In This Issue . . .

THE CONTINENT-WIDE safety program of American Telephone & Telegraph Company is a composite of the programs of many operating units. Central research and shared experiences have made possible a record that keeps the Bell System among the leaders in accident prevention. (Page 20)

\* \* \*

Were you at the First Cooperative Safety Congress in Milwaukee in 1912—as speaker, delegate, guest, waiter, or in any other capacity? If so, the National Safety Council would like to hear from you. (Page 23)

\* \* \*

Articles by members of NSC's Industrial Department are always welcome in these pages, and this month the department gets two bylines. Bill Davis gives a picture of the activities behind six million safe man-hours in a steel mill. (Page 24). Harold Alley presents a panorama of the pulp and paper industry's progress in production and accident prevention. (Page 28)

\* \* \*

This month the News presents the first list of awards to industrial members under the new procedure outlined in the February issue. These listings take the place of "The Honor Roll" formerly published each month. (Page 32)

*Carman Fish*

# Safety Leaders of 1951

Winners in National Safety Council's Sectional Contests

**A** RECORD-BREAKING low frequency rate of 7.51 disabling injuries per million man-hours worked was reported for 1951 by 3,076 entrants in the 16 industrial groups in which contests were held.

Average rates for all contestants showed a reduction from 7.70. During the past two years the competing companies have reduced the frequency rate by 2 per cent.

The companies listed below are those which will receive first place trophies according to the rules of the contest in their own industry. In the Chemical, Glass and Ceramic, Petroleum, Printing and Publishing, Textile, Commercial Vehicle, and Transit contests, first-place trophies are awarded only to the unit operating the largest

number of man-hours in case several have perfect records. In other contests, all companies or plants with perfect records receive duplicate first-place trophies.

In addition to the contests listed here, a competition is also conducted by the Metals Section on a fiscal year basis, July 1 to June 30.

Complete lists of all winners, plus second and third place winners and companies receiving certificates of merit for perfect records, appear in the contest bulletins which are being sent to all participating companies and plants. Each bulletin also contains a brief analysis of experience in the industry and a coded list permitting each non-winning company to identify its own record and compare it with others.

## Aeronautical Industries

North American Aviation, Inc., Downey, Calif.

## Chemical

### DIVISION I

Group A—E. I. du Pont de Nemours & Co., Old Hickory Rayon Plant.

Group B—E. I. du Pont de Nemours & Co., Toledo Finishes Plant.

Group C—E. I. du Pont de Nemours & Co., Philadelphia Grasselli Works.

### DIVISION II

Group A—E. I. du Pont de Nemours & Co., Edge Moor Plant.

Group B—American Cyanamid Co., Willow Island.

Group C—E. I. du Pont de Nemours & Co., Carothers Research Laboratory.

### DIVISION III

Group A—United States Rubber Co., Naugatuck Chemical Division.

Group B—Atlas Powder Co., White Haven, Pa., Works.

Group C—The Firestone Plastics Co., Vinyl Resin Plant, Pottstown, Pa.

## Commercial Vehicle

Group A—F. J. Boutell Driveway Co., Flint, Mich.

Group B—Collett Tank Lines, Salt Lake City.

Group C—Permanente Cement Co., Permanente, Calif.

## Food

### DIVISION I

Group A—Pillsbury Mills, Inc., Springfield, Ill.

### Group B

General Mills, Inc., Flour Mill, Louisville, Ky.

General Mills, Inc., Rossford, Ohio, Feed Mill.

General Mills, Inc., Wichita, Kans., Feed Mill.

General Mills, Inc., Belmond Iowa, Soybean Processing Plant.

Ralston-Purina Co., Davenport, Ia.

Pillsbury Mills, Inc., Ogden, Utah.

Ewa Plantation Co., Castle & Cooke, Ltd., Agents, Honolulu, T. H.

### Group C

International Milling Co., Salina, Kans.

The Quaker Oats Co., Los Angeles.

General Mills, Inc., Flour and Feed Mill, Los Angeles.

Ralston-Purina Co., Lafayette, Ind.

Spencer Kellogg & Sons, Inc., Chicago.

Pillsbury Mills, Inc., Clinton Feed, Ia.

Cooperative Mills, Inc., Roanoke, Va.

Ralston-Purina Co., Ltd., Montreal, P. Q.

International Milling Co., Greenville, Tex.

International Milling Co., New Prague, Minn.

Pillsbury Mills, Inc., Clinton Soy, Ia.

Pillsbury Mills, Inc., Lima, Ohio.

Pillsbury Mills Inc., Centerville, Ia.

Spartan Grain and Mill Co., Newberry Mill.

General Mills, Inc., Amarillo, Tex.

International Milling Co., Wabasha, Minn.

Ralston-Purina Co., Stockton, Calif.

Pillsbury Mills, Inc., Culver City, Calif.

Carnation Co., Albers Milling Co., Peoria, Ill.

General Mills, Inc., El Reno, Calif.

International Milling Co., Ponca City, Okla.

International Milling Co., Lockport, N. Y.

### DIVISION II

#### Group A

National Biscuit Co., Philadelphia.

#### Group B

Kellogg Co., Omaha, Neb.

National Biscuit Co., York (Pretzel), Pa.

National Biscuit Co., Baltimore.

#### Group C

General Foods Corp., Maxwell House Div., Jacksonville, Fla.

Interstate Bakeries Corp., Plant No. 6, Omaha, Neb.

National Biscuit Co., Portland, Me.

National Biscuit Co., Dayton, Ohio.

I. J. Grass Noodle Co., Chicago.

National Biscuit Co., Holland, Mich.

Continental Baking Co., Bridgeport, Conn.

General Foods Corp., Minute Tapioca Plant, Orange, Mass.

Quaker Oats Co., Depew, N. Y.

Peter Paul, Inc., Philadelphia.

Continental Baking Co., New Haven, Conn.

National Biscuit Co., San Antonio, Tex.

Quaker Oats Co., Tecumseh, Mich.

National Biscuit Co., Battle Creek, Mich.

National Biscuit Co., Charleston, S. C.

National Biscuit Co., York (Potato Chips), Pa.

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# You Can Have Safer Floors

**I**N ANY INDUSTRIAL or commercial establishment, the floor is an important factor in safe and efficient operation. And in most industrial and public buildings it ranks high among maintenance problems.

Assuming that the structure and subfloor are built with an ample margin of safety for moving and static loads, there is a wide choice of materials for the surface. No one type of floor is satisfactory for every type of industrial area. For various operations and areas different qualities in flooring materials may have primary importance.

Durability is a desirable quality anywhere but in manufacturing operations where traffic is heavy and large objects may be dropped, it may be most essential.

Cost of installation is something that must be considered in all industrial planning, but first cost should be balanced against prospective cost of maintenance. Inevitably, the more desirable

qualities found in any type of flooring the higher the price is likely to be. It is not sound economically to pay for qualities that are not needed, but it is even less economical in the long run to install floors that will not stand up under daily use.

To the safety man, slipping hazards present the outstanding problem, with holes and ruts a close second. Resistance to oils, grease, solvents and acids is essential in many locations. Maintenance of cleanliness and sanitation tops all other problems in food-processing areas and it is essential in washrooms and locker rooms.

Offices, rest rooms and cafeterias frequently require floors which are attractive in appearance and comfortable under foot. Quietness is another important quality for many locations.

The accompanying table will serve as a guide in selecting flooring for various areas. Such a table, of course, cannot cover in limited space all types of flooring



Electronic stepmeter developed at National Bureau of Standards measures vertical and horizontal components of forces exerted by the leg on a walkway surface during the step.

and all problems concerning their use. Manufacturers have devoted much research to these problems and have considerable engineering data available.

## Flooring Materials

Concrete is a useful and versatile building material. The proportions of cement and aggregate in the mix can be varied to the requirements of the job and the surface can be finished rough or troweled to a slickness that can be extremely hazardous under certain conditions.

Concrete can be used indoors or out, on or below grade, and is particularly valuable for damp locations. Where floors must be cleaned frequently by flushing, a concrete floor sloping to a drain is often used.

Concrete, particularly when reinforced, stands up under heavy traffic in plants and on the highways. It provides a rigid and substantial base for resilient types of flooring.

On the negative side, concrete is cold and unyielding under foot and inclined to dust. Mats of rubber, neoprene, vinyl or wood can provide a comfortable footing, and sealers control dusting. Such treatment is desirable in food processing areas and other locations



Concrete floor with grating over duct is easy to clean. (S. C. Johnson & Son, Inc.)

## FLOORING MATERIALS FOR INDUSTRIAL USES

AREA	Concrete	Asphalt hot mastic	Asphalt emulsion	Wood block	Wood plank	Asphalt tile	Greaseproof asphalt tile	Conductive asphalt tile	Resin binder mastic	Linoleum	Magnosite	Terrazzo	Rubber tile	Ceramic tile	Metal plates	Grating	Conductive linoleum	Conductive mastic	Conductive ceramic tile
Floors on grade.....	X		X	X	X	X													
Floors below grade...	X					X	X												
Suspended floors.....			X		X	X	X	X	X	X		X	X	X		X			
Driveways.....	X	X	X																
Ramps and loading docks.....	X		X	X	X														
Manufacturing areas	X		X	X					X										
Warehouses.....	X		X	X															
Stair treads.....	X					X				X		X			X	X			
Offices.....						X				X			X						
Laboratories.....						X	X			X	X	X	X						
Cafeterias.....							X			X									
Explosion— hazardous areas...								X									X	X	X
Washrooms.....	X					X						X	X	X					
Food processing.....	X						X							X					
Corridors.....	X									X		X							
Platforms, catwalks..					X										X	X			

where cleanliness and a dust-free atmosphere are important. Concrete can also be painted with floor enamels or special rubber-base floor paints.

Asphalt is used as hot mastic, in emulsified form applied cold, and tiles of varied colors and characteristics. Except in the tile form, asphalt is strictly a utility material which makes no pretense at being decorative. It is resilient, quite free from dusting, and resistant to dampness, acids and alkalis. Some types of aggregate, however, are attacked by acids. Asphalt itself is non-sparking, but chunks of gravel in the mix may cause sparks in contact with steel.

Hot mastic is used extensively for driveways and outdoor walkways but problems of application interfere with its use indoors. Ordinary asphalt softens at summer temperatures and is easily dented. Harder grades of asphalt remain firm up to 150 F.

Asphalt emulsion flooring is laid cold about 1/2 inch thick. It can be tapered down to a feather edge and is used extensively for patching. With a special primer it bonds well to concrete. The surface is

firmer than hot mastic asphalt but it will soften to some extent in hot weather. If applied over concrete it will stand fairly heavy traffic. When applied over wood, wire reinforcing adds strength.

Asphalt tile is available in several types, from the black industrial grade to highly decorative



Many types of mastic flooring materials with varying qualities can be applied over a rigid base. Most of these increase resistance to slipping, some withstand action of acids, alkalis, oils and solvents, some are conductive for use where atmospheres may become explosive. Generally they are resilient. This installation in a woodworking shop used neoprene in the mix. (DuPont.)

types in both light and dark colors. It is also available in greaseproof, conductive, and greaseproof-conductive types.

Other cold mastic materials which are troweled on have resin binders. Generally these are resistant to oils but the manufacturer should be consulted about the exposure. In uses and characteristics these materials are somewhat similar to the asphalt emulsions.

Rubber is resilient and has high dielectric strength. It is durable and attractive in appearance but relatively high in cost.

Metal plates of various types are used for thresholds, elevator landings, platforms, stair treads and over ducts carrying pipes and wiring where easy access is desirable. These come in cast iron with checkered or other designs and in ferrous and non-ferrous metals with abrasive incorporated in the surface. Plates can be readily repaired or replaced. Objections to metal are that they are conductors of electricity and heat and are noisy.

Metal grille floors and gratings are satisfactory for such uses as

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# Small Businesses and Associations

By A. M. BALTZER

Director, Small Business and  
Associations Program, NSC

## Small Business Program Accelerating

Last July when the Association of Mutual Casualty Companies made the grant which enabled us to spend full time on the problem of small business it was apparent that one of the best avenues of approach was through trade associations. They had the ear of top management and they had the promotional and distributional facilities to bring our story to executives in the smaller companies. Moreover, their awareness of insurance costs, legislation, public and employee relations gave them a very definite interest in any program which would help their interests.

From previous experience with a number of nationally known associations we knew that a program on an industry-wide level could be successful without an unreasonable expenditure of time or effort. As the result, trade associations were our primary target.

As our program developed it became clearer that a more direct approach than through trade associations should be attempted. Therefore, letters were sent to all local safety councils and to state conference officers suggesting that the subject of small business be emphasized at the next local or regional conference. That this offer has been accepted is proved by the many requests for speakers from these groups.

State manufacturing and county manufacturing groups have provided an exceptionally good contact at the grass roots' level. So far, most of the effort has been concentrated in Pennsylvania where the Pennsylvania Manufacturers' Association, the Manufacturers' Association of Montgomery County and the Manufacturers' Association of Berks County have cooperated to the fullest extent. These groups serve large numbers of small companies and have year 'round safety activities that should stimulate a great deal of interest.

## News Letter Helps

With the spring of 1952 issue, our Associations News Letter enters its fourth quarter. The News Letter itself is being slanted toward trade associations but the ultimate objective is still the reduction of accidents in small companies. In the News Letter, there is more and more emphasis on accident reduction and savings, and as many items as we can find on small companies with a good program and good safety record. The News Letter is aimed at association executives and its content is not quite as "technical" as the ASSE News Letter or the Sectional News Letters. Incidentally, complimentary copies are available on request to the Industrial Department.

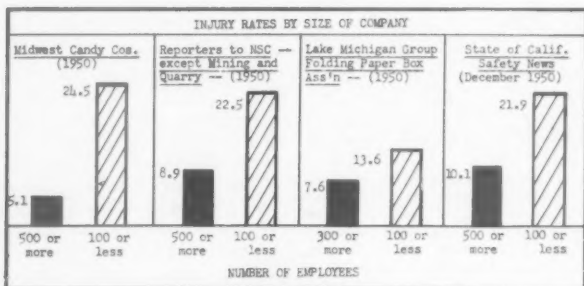
## Booklet Goes Over Big

The Council's promotional booklet, *Safety Pays the Smaller Business*, is going like hot cakes. Hundreds of copies have been distributed for promotional purposes and on request without charge. Large quantities of the booklet have been purchased by trade associations, chambers of commerce and insurance companies for distribution to small companies. One insurance company is distributing 14,000 copies. It is safe to say that literally thousands of small companies which had previously given little thought to safety are now being exposed to accident prevention propaganda.

## Small Businesses Have Big Losses

New evidence is continually coming to light which confirms the theories of safety engineers: Small companies do have more than their share of disabling injuries. ACCIDENT FACTS reports that manufacturing plants employing up to 100 workers comprise 90 per cent of all plants, they employ about one-fourth of the workers but have almost two-fifths of the disabling injuries. For trade, service, construction etc., which include even a higher percentage of

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One of a series of charts used in talks to convince associations and small business executives that they should cooperate in reducing accident losses.

# What We've Learned About Noise

By E. G. MEITER, Ph.D.



Checking sound levels with a decibel meter.

THE problem of noise in industry is not a new one, nor is it confined to any one industry. It has been recognized for some time, both in the Armed Forces and in industry, that in many important situations noise interfered with communication by voice. In addition, injury to hearing by loud sounds in the form of so-called boilermaker's deafness has

been recognized since 1890. Finally, everybody knows that excessive noise can be an annoyance.

During the past several years, this subject has been given renewed attention by industry and by the medical profession. To the long list of occupational disease and accident problems has been added another problem, that of noise. It is therefore important that we acquaint ourselves with the general aspects of the noise problem and its solution by both medical and engineering means.

What is noise?

Noise may be defined as "unwanted" sound.

The components of noise are: (1) Intensity or loudness; (2) Frequency or pitch; (3) Quality or timber.

## Measurement of Noise

1. *Intensity or loudness.* Intensity or loudness of noise is measured by a sound level meter, more commonly called a noise meter. It consists of a microphone, an amplifier, a calibrated attenuator, three frequency response characteristics controlled by three taps and an indicating meter.

The unit of sound measurement is the "bel," or more conveniently the "decibel," which is one-tenth of a bel, named in honor of Alexander Graham Bell. A level of zero decibels represents roughly the weakest sound which can be heard by a person with very good hearing.

Noise levels produced by familiar sources of sound are shown in Table I.

## 2. Frequency and quality.

The sound level meter measures only weighted or unweighted sound pressure. For a more complete description of sound, measurements involving frequency and quality or timber are also necessary.

Different types of noise have different effects on the hearing mechanism. It is generally believed that noise of high intensity is more injurious to the hearing when it is of high frequency than when the frequency is lower. A locomotive whistle, for example, produces a sound of low frequency, while an air hose produces a sound of high frequency. Two sounds of the same intensity and the same pitch may vary appreciably in the annoyance they cause because of the different harmonic makeup or quality.

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TABLE I  
Scale of Representative Sounds

Source of Sound	Decibels
Zero Reference	0
Whisper	20
Low Street Noise	40
Conversation	60
Heavy Traffic	80
Critical Level	90
Subway	100
Airplane	120
Jet Engine	140

DR. E. G. MEITER is Director, Industrial Hygiene Laboratories, Employers Mutual Liability Insurance Company of Wisconsin, Milwaukee. This article has been adapted from a paper presented at the 21st Annual Safety Conference of the Greater New York Safety Council.

# Windups and Letoffs

Published by National Safety Council  
425 North Michigan Avenue, Chicago

1. This data sheet discusses windups and letoffs of the types used in the rubber industry for handling fabric, cord, or stock.

2. There are very few minor injuries caused by the windup and letoff operation. Fractured arms, and legs, chest injuries and fatalities make up approximately 85 per cent of accidents reported. Windup injuries are currently the number one problem of the safety program of the rubber industry.

3. The most common machines involved in windup injuries are:

- a. Calender windups
- b. Bias Cutters (vertical and horizontal)
- c. Ironers
- d. Heating drums
- e. Cooling drums
- f. Dusting liners
- g. "Dancer" rolls
- h. Common re-rollers (open and closed shaft types)
- i. Stock tables

In all of these operations either fabric or stock or both are wound up at some one point or pass over one or more driven or idler rolls or drums. The speed of common windups varies from ten to ninety yards per minute. The higher the speed, of course, the more likely the injury. The speed and tensile strength of fabric liner, cord or stock determine the seriousness of injuries caused by this equipment.

This Data Sheet is one of a series published by National Safety Council. It is a compilation of experience from many sources. It should not be assumed that it includes every acceptable procedure in its field. It must not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, and municipal ordinances. Reprints of Data Sheets are available from the National Safety Council.

4. Some of the devices used to stop the movement of windups and letoffs are:

- a. Power shut off
- b. Friction drum with belt and weight
- c. Friction clutch
- d. Magnetic clutch
- e. Magnetic clutch and brake
- f. Solenoid or air brake
- g. Plugging control
- h. Dynamic brake
- i. Photo-electric cell with dynamic brake

5. The application of effective safety controls is complicated by the variation of equipment design from plant to plant within the industry. Even within the plants of one company, wide variation exists. There is a real need for close cooperation between the design engineers and safety engineers, if there is to be more uniformity in the design of windup equipment. Rolls need not be

mounted close together on one machine. If they can be separated, pinch points will be eliminated and safer operations will be the result.

## Starting Liners

6. Almost 70 per cent of windup accidents reported occur when an employee starts the liner on the shell using power to turn the rolls. If possible, the liner wrap or fold should be made by hand with the power off. (Fig. 1.) The workers at one company use rubber bands made from inner tubes to attach

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Fig. 1. Hand starting of liner on windup shell.

# Tinted Optical Media

IN THE LAST year and a half the public has had offered to it any number of types of "tinted" glasses designed for various and sundry purposes. The public also has been bombarded with articles in lay, semiprofessional and professional magazines and journals, as to the pro's and con's of the propriety and authenticity of the use of tinted lenses. These articles and reports coming from good, bad and indifferent sources, are frequently contradictory in whole or in part, leaving the public and often professional people, completely confused.

In view of this situation and in view of the highly technical nature of the subject, the Joint Committee of Industrial Ophthalmology representing the American Academy of Ophthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association, was requested to set up a Sub-Committee, to study the problem of "tinted optical media." This Sub-Committee, of world famous scientific authorities on filter lenses and "tinted optical media," was instructed to clarify the basic principles involved, by definition, and to answer certain specific questions.

The following report of the Sub-Committee is based on long hours of exacting scrutiny of each and every word and implication and on the best scientific information available. It is being presented simultaneously in the *Transactions of the American Academy of Ophthalmology and Otolaryngology*, in *NATIONAL SAFETY NEWS*, and in the *Journal of Industrial Medicine and Surgery*.

A. D. Ruedemann, M.D., *Chairman*  
Hedwig S. Kuhn, M.D., *Secretary*  
Glen H. Harrison, M.D.  
John B. Hitz, M.D.  
E. B. Spaeth, M.D.  
Col. Victor A. Byrnes, (MC)

## Report of the Subcommittee

### I. Categories

In the consideration of any discussion of "tinted optical media" (i.e. lenses, plano or prescription, made up into glasses and carrying a tint) it is obvious that these fall into several categories.

#### A. Sunglasses

1. Neutral
2. Colored
3. Polarizing
4. Reflecting

#### B. Tinted glasses for constant wear.

C. Colored glasses for industrial, military or other specialized purposes. This category is not discussed.

### 2. Definitions

It is important to have clear definitions of these categories in mind during this discussion:

A. Sunglasses are lenses designed primarily for wear in sunlight of high intensity.

1. Neutral lenses absorb all wave lengths of the visible spectrum (light) in approximately equal degree. The light transmitted by such lenses is reduced in intensity but its color is essentially unchanged.

2. Colored lenses absorb the light rays of the various wave lengths, in unequal degree. Light transmitted through such lenses is reduced in intensity and its color is modified by the unequal absorption.

3. Polarizing lenses absorb light rays which vibrate in some planes. Light vibrating in other planes is transmitted.

4. Reflecting lenses depend on a thin metallic coating which reflects a portion of the light. The intensity of light reaching the eye is thereby reduced.

The principles of absorption, polarization, and reflection can be combined in a single lens.

B. Tinted glasses for constant wear are mildly colored lenses marketed for use in optical prescriptions. In general, these lenses transmit a high percentage of light.

### Questions and Answers

A number of very definite questions were given the Sub-Committee with reference to "tinted optical media"; these are presented exactly as given.

Q. Does the wearing of tinted lenses increase visual acuity by reducing chromatic aberration or by eliminating scattered violet, blue, and green light?

A. This Sub-Committee does not believe that acuity can be appreciably improved by the wearing of any tinted lenses and is not aware of any accepted study which supports such a thesis.

\* \* \*

Q. Do sunglasses diminish ocular discomfort?

A. Sunlight of even high intensity will produce no discomfort in some people. Where discomfort exists, it is frequently diminished by wearing sunglasses.

\* \* \*

Q. Do sunglasses affect the perception of color?

A. Colored sunglasses (in contradistinction to neutral sunglasses) affect perception of color to some extent. Under ordinary circumstances the distortion of color perception by the color-normal person is not significant. However, at least 5 per cent of our population is not color normal. The use of colored lenses by these people may exaggerate their defects and pose a serious problem. Even color-normal individuals frequently encounter situations in which colored glasses may constitute a hazard. (Example: The recognition of colored traffic signals viewed against the bright background of a sunset).

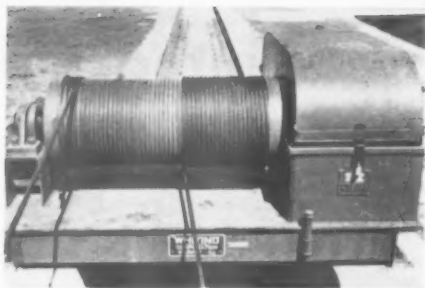
Q. Are there spectacles which absorb the wave lengths responsible for cataract?

A. There is no conclusive evidence that daylight in any intensity, or over any period of time, produces a cataract.

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# Ramp Hazards at Airport Reduced

New system of aircraft parking avoids numerous collision hazards and permits more effective use of terminal facilities



Left: Aircraft is taxied onto these three cars, which are virtually flush with pavement, and locked in place. The winch (above) moves the cars until the plane is flush against the platform.



**R**AMP ACCIDENTS are among the serious problems of airport operation. In a recent study of 240 accidents by an insurance company, 178 were classed as avoidable, 59 unavoidable, and 3 undetermined.

Ramp collision damage resulting from maneuvering in close quar-

ters may range from a broken running light on a wing tip to completely mashed wing tips and fuselage noses. In addition to the direct cost of repairing damage to planes and medical and compensation cost of personnel injuries, there is the additional loss through airplanes being taken out

of service with consequent delays and lost business.

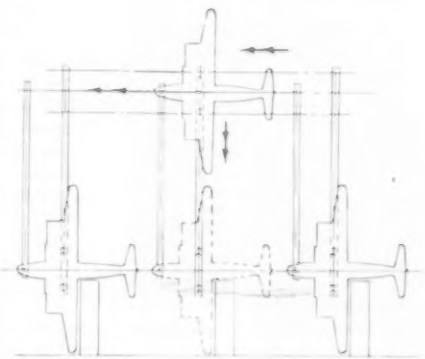
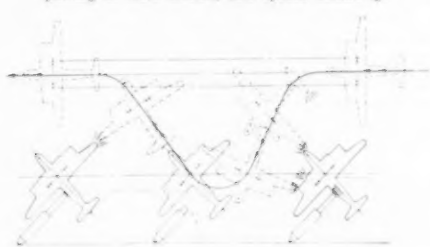
Parking airplanes involves the spectacular risk of ramp personnel being hit by a whirling propeller. There is also danger of collision with trucks and portable ramp equipment, as well as with other planes.

To reduce congestion and hazard and increase the capacity of airports an automatic means of parking aircraft immediately adjacent to an airport terminal has been developed by the Whiting Corp., manufacturers of hoists, cranes, and other materials handling equipment.

This device, known as the "Loadair," was recently put in test operation at Barranquilla, Colombia, by the South American Air

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Below: Conventional system of aircraft parking offers numerous collision hazards and wastes ramp space in margins needed for maneuvering. Right: With Loadair, mechanical positioning of aircraft avoids confusion and collisions, permits parking of more aircraft, and speeds unloading.



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Today, even buildings with but 2,000 to 15,000 sq. ft. of floor space can reap the labor-saving, cost-reducing benefits of combination-machine scrubbing. Here's a Combination Scrubber-Vac, Model 418P at left, that's specially designed for such buildings. This Scrubber-Vac, which has an 18-inch brush ring, cleans floors in approximately one-third the time required with a conventional 18-inch machine and separate vac unit.

Model 418P applies the cleanser, scrubs, and picks up (damp-dries the floor) — all in one operation! Maintenance men like the convenience of working with this single unit... the thoroughness with which it cleans... and the features that make the machine simple to operate. It's self-propelled, and has a positive clutch. There are no switches to set for fast or slow—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. (Powder dispenser is optional.) Compactly built, the 418P also serves advantageously in larger buildings for the care of floors in narrow aisles and congested areas.

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CITIES



# Green Cross News . . .

## Activities of Local Safety Councils and Chapters

Compiled by **TOM A. BURKE**

Director of Local Safety Programs, Field Organization, NSC

### Reynolds Du Pont Heads Delaware Council

REYNOLDS DU PONT is the new president of the Delaware Safety Council, elected at the recent annual meeting held in Wilmington. He succeeds J. D. Reeder, whose administration during the past three years has been marked by steady growth in the Council's program effort and financial structure. The new president has taken an active interest in the industrial activities of the Council for several years as a working member of various committees. He is the son of Lamont Du Pont, a former president of the Du Pont organization.

### Minneapolis Conference

The Greater Minneapolis Safety Council opened its series of 1952 occupational safety conferences on January 30, with W. Dean Keefer, vice president, Lumbermen's Mutual Casualty Company, Chicago, as the opening speaker at the general session. Sectional meetings included industrial nursing, machine shop, needlecraft, mill and elevator, management and foundry. Sessions are scheduled a month apart with the closing conference April 30. The Minnesota Safety Council and NSC, with the Minneapolis Chamber of Commerce, are cooperating.

### 10,000 Attend Convention

Approximately 10,000 safety leaders and others interested in various fields of safety, attended the Greater New York Safety Convention and Exposition, held in New York City at the Statler and New Yorker hotels, April 1 to 4, inclusive. The big convention was sponsored by the Greater New

York Safety Council and nearly 100 cooperating agencies. Heavy emphasis was given this year to the industrial side and registrants had their choice of 25 industrial sessions during the four days. Special programs were also scheduled for home safety, school safety, driver training and radio and TV safety education. The early morning sessions drew a large attendance. This year's morning hour theme was "Men, Bosses and Jobs."

### 33rd Annual Course

The first of a series of three industrial safety sessions, sponsored by the Safety Council of Greater St. Louis, was held February 14, with the featured talk by Dr. Ira H. Young, Professor of Education and Psychology, Harris Teachers College. Dr. Young was the speaker at all three sessions. This year's meetings emphasized the mental factors involved in accident occurrence—the relationship of accidents to human behavior. The other programs were given on February 21 and February 28, and an extra session "Smile Party," was scheduled for the evening of March 14. More than 7000 supervisors registered for the course — which was the 33rd annual foremen's series conducted by the Council.

### Briefing Board Members

In preparation for its annual financial campaign the St. Joseph (Mo.) Safety Council held a special meeting of its Board on February 27, to better acquaint the members with the work of the Council, and to provide information necessary to actually sell the safety council, its work and ac-

complishments, to several hundred leading firms in the St. Joseph area. Because of the current "50 cent dollar," members will be urged to increase the amount of their present contributions. In all, more than 300 firms will be approached through personal calls by Board members and other public spirited leaders. The meeting was given over entirely to the important matter of financial procurement.

### New Orleans' Fund Drive

The directors of the Metropolitan New Orleans Safety Council will soon launch a fund-raising and membership drive. Board members and others are planning to make personal calls on all firms employing 100 or more workers, urging their financial support for an expanded program to cover the industrial, traffic, marine and public safety fields. At the recent annual meeting of the Council, E. M. Rowley, local business man, was re-elected president. Earl F. Campbell, director of NSC Field Organization, presented an NSC charter to the group for the year 1952. Forty-four New Orleans industrial firms are participating in the Council's safety contest.

### Lansing Entertains Section

Lansing leaders turned out to greet and entertain members of the NSC Power Press and Forging section, which met in that city recently. Fifty-two persons attended the first day's luncheon, of which approximately half represented local organizations and industries. The Mayor of Lansing attended, with top officials from

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# Cool, Safe Summer Comfort



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## The Case of The Leaky Bag

By ROY G. BENSON

ROY G. BENSON, Assistant Manager of the National Safety Council's Industrial Department, has seen comedy as well as tragedy in accident prevention work. Here is another of his humorous experiences. Others have been related in previous issues.



DURING THE WAR I was running safety errands for a bunch of plants that were using great quantities of a fluorine compound in one of the processes. We didn't know too much about the retention of fluorine in the bodies of workers, so we had to get information. Articles said that the fluorine would cause bone changes but you could get an indication of harmful intake by careful urine analysis. We retained a laboratory, experienced in fluorine in urine analysis, for the work. You could have knocked me over with a bed pan when I was told that they needed gallon samples. They didn't want spot samples that might be high or low at the time but a representative sample over a period of days.

For months I had a trunk size case with an accumulation of samples from all over the country sitting in my office. As soon as one was filled and went to the lab another took its place. Fortunately, these were defense plants and I could put "Restricted" labels on the crate, but, my goodness, can't women be curious? Never was a plant operating on noxious gas under my safety supervision given the careful tests for leaks that these cases received.

Everything went smoothly until one evening when I received a call at my home. One of the boys at a local plant, that was also a part of the test pattern, was on the phone. He had left his glass receptacle on the back porch, the weather was freezing, and the expected had happened. The liquid had frozen and the jug cracked. He wanted to see me, and before I could tell him to forget it, we'd

get him on the next batch of tests, he had hung up.

In a short while the doorbell rang and there was our anxious plant operator with what I presumed to be Test 36 in a paper sack. Before I gave it a thought we were in the warm living room discussing the tragedy. But when I looked in the sack I was almost floored—here was the sample, sans bottle! It took about two seconds to convince my visitor that we should take the subject of our conversation out on the cooler front porch and reach our plan of action there.

As soon as he left I carried his precious burden out in the alley. I suppose a solid physiologist would have made room in the family refrigerator, but I don't believe my wife is that interested in science. The next day I convinced my sincere friend that his exposed sample was undoubtedly contaminated by exposure and it would be best to start from scratch.

I still think that some of the men confronted with the gallon glass jugs believed that we were collecting raw material for a secret weapon.

### Eye Hazards in Fiction

Writers of pot-boiler fiction don't seem to have any regard for their characters' eyes. Here are some examples (sources not given) quoted by *Hoco News*, published by Houston Oil Company:

"Her eyes roamed carelessly around the room."

"With her eyes she riveted him to the spot."

"He tore his eyes away from her face and they fell on the letter at her feet."

"Their eyes met for a long breathless moment and swam together."

"She would often take her eyes from the deck and cast them far out to sea."

"He wrenched his eyes away from her. It was a painful moment for both of them."

## Safety Leaders

—From page 35

### DIVISION III

#### Group A

Carnation Co., Northern District.

#### Group B

Wheeler Cheese Co., Green Bay, Wis.  
The Borden Co., Chateau Cheese Div.,  
Ottawa, Ont.

#### Group C

Kraft Foods Co., Hutchinson, Minn.  
Kraft Foods Co., Stockton, Ill.  
Kraft Foods Co., Springfield, Mo.  
The Borden Co., Northeast Div.,  
Syracuse, N. Y.  
Southern Dairies, Inc., Christiansburg, Va.  
The Borden Co., Wellsboro, Pa.  
Borden's Ice Cream Co., York, Pa.  
Kraft Foods Co., Lowville, N. Y.  
Kraft Foods Co., Los Angeles.  
The Borden Co., Northeast Division,  
Rochester, N. Y.  
The Borden Co., Ltd., Kemptville, Ont.

### DIVISION IV

#### Group A

Kraft Foods Co., Sacramento Blvd.  
Plant, Chicago.

#### Group B

General Foods Limited, Montreal,  
P. Q.

#### Group C

H. J. Heinz Co., Tracy, Calif.  
Morton Salt Co., Hutchinson, Kans.  
Kraft Foods Co., Atlanta, Ga.  
C. H. Musselman Co., Gardners Plant.  
Libby, McNeil & Libby, Kokomo, Ind.  
Smith Bros., Inc., Plant No. 1, Poughkeepsie, N. Y.  
Libby, McNeil & Libby, Brooklyn, N. Y.

### DIVISION VI

#### Group A

General Cigar Co., Kingston, Pa.  
Bayuk Cigars, Inc., Eleventh St.  
Plant, Philadelphia.

#### Group B

General Cigar Co., Philipsburg, Pa.  
Bayuk Cigars, Inc., Tenth Street  
Plant, Philadelphia.

### DIVISION VII

#### Group A

National Distillers Products Corp.,  
Peoria Div., Peoria, Ill.

#### Group B

Hunter-Wilson Distilling Co., Bristol,  
Pa.  
Old Farmers Distillery, Athertonville,  
Ky.  
Jos. S. Finch & Co., Cedarhurst, Md.  
Schenley Distillers, Inc., Lebanon, Ky.  
Calvert Distilling Co., Lawrenceburg,  
Ky.  
Schenley Distillers, Inc., Stamping  
Ground, Ky.  
Brown-Forman Distillers Corp., La-  
brot & Graham Div., Versailles, Ky.

### DIVISION VIII

Los Angeles Brewing Co.

### FLUID MILK DIVISION

#### Group A

J. D. Broszell Co., Peoria, Ill.

#### Group B

Carnation Co., Tulsa, Okla.

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# Industrial Health

Abstracts of current literature on Industrial

Hygiene, Medicine, and Nursing

By F. A. VAN ATTA, Industrial Department, NSC

## Vanadium Poisoning

*Vanadium Poisoning from Cleaning Oil-Fired Boilers*, by N. Williams. The British Journal of Industrial Medicine 9:50-55 (January, 1952).

THE VANADIUM CONTENT of crude oils varies very greatly and the ash from Venezuelan sources may be as high as 45 per cent, or 14 per cent in Iranian crude oil or none in Pennsylvania crude. Since the fuel oils are residual oils they contain all of the vanadium which was present in the original crude.

One of the British generating stations was converted to crude oil after the most recent war because of the shortage of coal and a considerable quantity of oil is burned as each boiler uses approximately 150 tons of oil per week.

Following the conversion the boiler cleaners began to complain of the effect upon their health of cleaning the oil-fired boilers. They complained of irritation of the nose and throat, sneezing, watering of the eyes, soreness of the throat and soreness behind the breastbone. These symptoms occurred between a half hour and twelve hours after starting to work and were followed after 6 to 24 hours by a dry cough, wheezing, shortness of breath, lassitude and depression. The symptoms only began to recede three days or more after getting away from the oil-fired boilers and eventually all disappeared as none of the men noticed any permanent ill effect.

Air samples taken in the boiler during cleaning showed 240 to 660 milligrams of dust per cubic meter of air and representing 17 to 60 milligrams of vanadium per cubic meter of air. Urine samples

from the men showed vanadium excretion in three of eight instances.

When the job was changed so that most of the cleaning was done from the outside of the boiler with a compressed air lance and so that the men who must work within the boiler were provided with respirators approved for silicosis producing dusts the complaints disappeared.

## Tough Supervisors and Accident Proneness

*Research Study of Accident-Prone Workers Shows Importance of Personality Patterns and Effects of Autocratic Supervision*, by Charles W. Nelson. Illinois Labor Bulletin Volume 12, Nos. 5 and 6, pages 14 and 15, November and December, 1951.

THIS STUDY was carried on in a heavy manufacturing plant with about 6,000 employees and a good safety program. The plant did, however, show two departments with high frequency rates and a number of accident repeaters.

The employees for the study were chosen on the basis that they have had four injuries in a five-year period which involved lost time. This was comparable to a statistical average of less than 1/100 lost time injury per employee in the five years.

Of 129 employees accident prone by this test, 20 were chosen at random for intensive interviewing and 20 accident-free employees matching them in education, occupation and department were chosen for comparison purposes.

There were no notes taken on the interviews, they were all recorded completely on tape with the recording microphone in clear view and with the employee's

agreement to recording in each instance. The method of interviewing was to first discuss freely the employee's thinking about safety in general, then to bring on a period of frustration by purposely misinterpreting the employee's statements and cutting him short when he tried to clarify and finally another period of free discussion to relieve the tension and get rid of the feeling of frustration.

In the first phase, it was noticeable that the accident-free employees spoke realistically and objectively about the actual experiences in the plant. The accident prone paraphrased the safety slogans but contradicted their statements in their personal habits. As an example, one accident repeater who thought that every employee should be forced to report even the slightest injury had a week-old untreated wound on his hand which he said was "just a scratch."

In the second phase of the interview, the accident prone made poor adjustments to frustration, and either became angry or wavered and backed down on their previous statements. The accident free did not show these peculiarities.

The accident prone in the third phase of the interview generally felt that the causes of accidents were fate or were the result of horse play on the part of themselves or other employees. The accident free were more inclined to blame them on mechanical devices and to aggressive supervisors.

Because of this finding the foremen of the two departments, showing 4 to 5 times as many accidents as the plant average, were given tests to determine their leadership attitudes. They were found to be significantly high in autocratic and significantly low in democratic leadership attitudes. In a follow-up study it was found that where these supervisors were transferred, the accident rate dropped in the department from which they were transferred and

—To page 107

# NOW

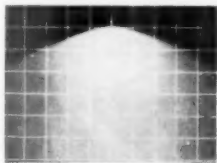
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## Safety Leaders

—From page 47

Central Dairy Products Co., Oklahoma City, Okla.

### Group C

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The Borden Co., Lafayette, Ind.

The Borden Co., Mansfield, Ohio.

The Borden Co., Middletown, Ohio.

The Borden Co., New Philadelphia, Ohio.

Sheffield Farms Co., Northern Pennsylvania District.

Sheffield Farms Co., Northern New York District.

## Glass and Ceramics

FLAT DRAWN GLASS DIVISION  
Pittsburgh Plate Glass Co., Works  
No. 4, Ford City, Pa.

GLASS CONTAINER AND GLASS  
TABLEWARE DIVISION

### Group A

Owens-Illinois Glass Co., Bridgeton, N. J.

### Group B

Owens-Illinois Glass Co., Clarion, Pa.

CERAMICS AND TABLEWARE DIVISION  
Gladding, McBean & Co., Dinnerware  
Plant, Glendale, Calif.

MACHINE AND MOLD SHOPS DIVISION  
Owens-Illinois Glass Co., Central  
Mold Shop, Oakland, Calif.

## Marine

SHIPBUILDING AND REPAIR DIVISION—  
GOVERNMENT

### Group A

Pearl Harbor Naval Shipyard, Pearl Harbor, T. H.

### Group B

Upper Mississippi Valley Div., Corps of Engineers.

SHIPBUILDING AND REPAIR DIVISION—  
PRIVATE

### Group A

Lago Oil and Transport Co., Ltd., San Nicolas, Aruba.

### Group B

United States Steel Co., Marine Ways, Clairton, Pa.

Erie Railroad Co., Jersey City, N. J.

Ashland Oil & Refining Co., River Repair Terminal.

HARBOR EQUIPMENT DIVISION

### Group A

Corps of Engineers, Lower Mississippi Valley Div.

### Group B

Atlantic Coast Line Railroad Co., Port Tampa, Fla.

STEVEDORING DIVISION

The Erie Dock Co., Cleveland, Ohio.

CARGO AND PASSENGER VESSELS

DIVISION—GOVERNMENT

Navy Department, Honolulu, T. H.

CARGO AND PASSENGER VESSELS

DIVISION—PRIVATE

Wyandotte Chemicals Corp., Wyandotte, Mich.

TANKERS DIVISION

General Petroleum Corp., Los Angeles.

## Meat Packing

DIVISION I

### Group A

Wilson & Co., Oklahoma City, Okla.

### Group B

Swift & Co., Los Angeles.

### Group C

Burns & Co., Limited, Edmonton, Alta.

Swift & Co., Hallstead, Pa.

DIVISION II

The Quaker Oats Co., Marion, Ohio.

## Paper Industry

PULP AND PAPER MILLS DIVISION

### Group A

Kimberly-Clark Corp., Kimberly, Wis., Mill.

### Group B

Fraser Paper, Limited, Madawaska, Me.

### Group C

West Virginia Pulp & Paper Co., Williamsburg, Pa.

Congoleum-Nairn, Inc., Cedarhurst, Md.

### Group D

Certain-teed Products Corp., Mar-  
seilles, Ill.

Mead Corp., Manistique Div., Manistique, Mich.

Mead Corp., Nashville Div., Nashville, Tenn.

United States Gypsum Co., Oakmont, Pa.

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# The Safety Library

Books, Pamphlets and Periodicals of Interest to Safety Men

## BOOKS AND PAMPHLETS

### Foreman Training

*Foreman Training in a Growing Enterprise.* A. Zaleznik, Harvard University Graduate School of Administration, Boston, Mass., 1951. 232 p. Price \$3.50.

The author examined a foreman training program, conferred with management and the training director about the program, and finally, observed foremen and workers in their work relationships.

The value of such a procedure should be great, but only a brave training director would submit his work to this kind of objective scrutiny. It is a great deal like listening to the preacher on Sunday, then following the members of his flock through all their devious movements between Sundays.

The author found that the foremen had problems and it appeared to him that they would have been glad of help from the training department. Unfortunately, the training program was unrealistic and, even when foremen attempted to inject work-related discussion, the trainer stuck doggedly to his carefully prepared course. Further, training was directed to first line supervisors and there appeared to be no effort to create, through staff and upper supervisory levels, an atmosphere helpful to the ideas which the training director was trying to put over.

Every training director, if he is wise, would be glad to have an observer give his program this kind of scrutiny. If such an observer is not available, or if the training director shrinks from a completely objective study by an outsider, it should still be possible for the training director himself to establish relationships, with foremen on the job, that would enable him to make his training program more realistic.

The author's concluding paragraph adequately summarizes the study and gives all management and training people food for thought. "If management personnel and training specialists are seeking some reference points with which to view their training activities, this question is perhaps a workable guide: Is training realistic from the supervisor's point of view and in relation to his problems at work? The only way to develop an answer to this question in a particular organization is to go to the work level, and to observe what is happening. Useful training policies and plans can then be developed within a realistic framework."

Glenn F. Griffin

### Psychophysical Measurement and Machine Design

*Handbook of Human Engineering, Second Edition.* Prepared by Tufts College Institute of Applied Experimental Psychology, Medford, Mass. for The Special Devices Center, Office of Naval Research, 1951. 558 p. Price \$5.00. (Technical Report—SDC 199-1-2, Nav-Exos P-643)

During World War II it became increasingly obvious that if machines are to be operated effectively, their design must take into account the limitations and the capabilities of the average man. A machine with controls placed so high that a man of average height cannot reach them is probably an absurdity not frequently encountered. But indicator dials so finely calibrated that a man with normal vision cannot read them accurately are not uncommon.

*The Handbook of Human Engineering* is a compilation of data aimed primarily at providing the design engineer with the basic information he needs to avoid de-

signing machines that incorporate structural elements making impossible demands on the average operator.

A large volume in loose-leaf format, so that obsolete material may be easily discarded and new material added, the *Handbook* is divided into nine sections.

Part I, "The Human Machine," includes a brief introduction to the whole subject of designing machines to take advantage of the capabilities of the human body and to make allowances for its limitations. This section also includes a discussion of psychophysical and statistical methods used in determining the average of the various human abilities and characteristics that must be considered in effective design engineering.

Part II, "The Human Body," gives tables of averages of body measurements such as arm reach, sitting height, eye height, etc. These bear obvious relationships to determining the dimensions of machines.

Parts III to VI, "Vision," "Audition," "Skin Sensitivity and Proprioception," and "Motor Responses" tabulate investigations that have been made on various factors in these fields. Studies of visual and auditory acuity, for example, reveal the limitations of human perception that must be respected by machine designers.

Part VII discusses the effect of temperature and humidity and certain drugs on human efficiency.

Parts VIII and IX go into the problems of intelligence and learning.

This handbook performs a valuable service in bringing together the results of many investigations that have been available only as reports scattered through technical journals. But much of the material is part of the common fund of psychophysical research and has been available for a long time in more compact form in standard textbooks on the subject. Presumably design engineers — and certainly psychologists to whom this second edition is also addressed, as well as many interested

—To page 112

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UNDER  
WET SHOES**

**DAZZLING SELF-LUSTRE**

**SUPER SAFE, RAIN OR SHINE**

**SAFE TO WALK ON, SAFE FOR FLOORS**

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—From page 32

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United Steel & Wire Co., Plants No. 1 and No. 3, Battle Creek, Mich.  
Vulcanized Rubber & Plastics Co., Morristown, Pa.  
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Westinghouse Air Brake Co., Air Brake Div., Wilmerding, Pa.

• Sweating in hot weather can cause a tired, listless feeling and make every move an effort. These symptoms are caused by the loss of salt from the system.

Salt is lost amazingly fast through perspiration and research has shown that "lassitude" and "loss of will to work" can occur when as little as 10% of the salt in the system is lost. As vigor and vitality go down the accident rate can go up. Prompt replacement of this salt can quickly restore vigor

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The 2½' x 4' two-color poster greets workmen ascending stairs from washrooms and timeclock area in Superior's electronic tubing mill. Spot originally contained a Christmas greeting, and the safety director and chief draftsman agreed that it was an ideal location for a safety message, when the holidays were over.

Sign points up effectiveness of simple, home-made safety reminders slanted to workers in plant. Drawing shows man slipping on tube—an unlikely event in Superior's spic-and-span mill where tubing rarely lies on floors—but idea gets across several times a day, as workers ascend stairs.



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BALTIMORE, MARYLAND

## Tinted Optical Media

(From page 41)

Q. Objections to tinted glasses arise when they are promoted with unfounded advertising claims. What claims can be permitted?

A. The primary function of a sunglass is to reduce brightness. Therefore, the proper and principal claim that can be made for a sunglass is that it reduces glare in proportion to the density of glass. Additional descriptive claims may be made, such as: that the glasses are cosmetically pleasing, that they reduce ultra-violet and/or infrared radiation, that they are essentially neutral, or that they have certain physical properties of shape, size, polish, base curvature, or color. However, advertising statements must not imply that any of these characteristics are of physiological benefit.

We (the Sub-Committee and Joint Committee) cannot anticipate the multiplicity of claims that may be made and therefore every type of claim must be considered individually. *The common practice of distorting scientific information for promotional and sales purposes is to be deplored.*

\* \* \*

Q. Will you give a list of minimum requirements for the acceptability of sunglasses.

A. Recognizing that inexpensive sunglasses have a definite usefulness, this Sub-Committee believes it unwise to establish requirements which might eliminate these glasses from the market. However, to inform and protect the purchaser, sunglass manufacturers should be encouraged to label their products with respect to the following properties:

1. Transmission of visible light expressed in percentage, together with the tolerance of deviation from the standard. (Example: Transmission 20%  $\pm$  1%).

2. Type of manufacture. (Example: "Ground and Polished," "Bentplate," "Blown," etc.).

3. Base Curve (Example: "6 Base Curve").

4. Optical Tolerances:

- a. Power (as worn)—stated in fraction of a diopter.
- b. Prism (as worn)—stated in fraction of a diopter. (Example: "Tolerance": Power 1/16; Prism 1/16 A).

5. An expression of the percentage neutrality when a standard acceptable to the ophthalmic professions is developed.

### General Comments

In considering the use of glasses to reduce overhead brightness either indoors or out, it is to be remembered that a visor or broad-brimmed hat is a most effective shield, and will frequently obviate the necessity for sunglasses.

This Sub-Committee condemns the use of any type of "night-driving lens." Any such lens, whether colored, reflecting or polarizing, reduces the total light transmitted to the eye and renders the task of seeing at night more difficult. Similarly, it condemns the use of colored windshields (which may prove a hazard at night) or the promotion of removal filtering or polarizing shields as a useful aid in night driving.

As applied to the general civilian population, this Sub-Committee endorses the thesis that sunglasses should be worn only when the intensity of light produces discomfort, and that the penalty for their wear otherwise is the reduction of the individual's tolerance to bright light. Unless indicated by definite ocular pathologic processes, the habitual use of sunglasses indoors is most objectionable.

It is emphasized that no commercially marketed sunglass is sufficiently dense to permit direct gaze at the sun. Much denser fil-

ters are required for safe view of a solar eclipse.

With respect to the mildly tinted lenses designed for constant wear, it is recognized that the more dense of this group are useful in the presence of photophobia due to pathologic conditions. In the absence of pathology those more dense tints should not be prescribed for constant wear. The total light transmission of the lighter tints differs so little from that of crown glass that they are not considered effective filters in pathologic states. The Sub-Committee has no objection to the use of the very mildly tinted lenses if the patient desires them and can afford the additional cost. It is emphasized, however, that we do not agree that they offer physiologic advantage over crown glass for use under fluorescent lighting or other lighting situations.

The Sub-Committee is aware of the investigations which have shown that prolonged exposure to bright sunlight impairs night vision subsequently. This factor is of extreme importance in certain military situations but of very questionable importance in civilian life. The motorist viewing the road ahead under headlights is dependent upon photopic vision; and we are not convinced that photopic vision is appreciably improved by the use of sunglasses. Rather, we believe that the inadvertent wear of sunglasses at dusk constitutes a far greater hazard in driving on the highways than any possible decrement in vision at low levels of illumination.

\* \* \*

The Sub-Committee agrees in general with the statements contained in the article by Dean Farnsworth: "Standards for Sunglasses," published in *Sight Saving Review*, Vol. XX, No. 2, Summer 1950, pp. 81-87.

### SUB-COMMITTEE

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I.B.M. found that goggles and glasses stay dirty, dangerous and inefficient unless you make it *easy as possible for workmen to keep them crystal-clear*. What's good for I.B.M.—and it must be good to satisfy I.B.M.—is good for you:

Each MAGIC sheet is loaded with sparkle-power. The paper is, without question, the finest that can be made. Big sheets . . . 50% larger than usual . . . *yet it costs you less*. Soft but tough. It doesn't tear. No fluid. Nothing to squirt. No waste. No cumbersome cabinet or complicated Dispensers. Each carton of Refills contain 6 Ready-to-Use Packets (800 interfolded jumbo-size 5" x 6½" super-strong sheets per packet) at only \$8.40 per carton. The simple,



**NO SCREWS  
OR DRILLS  
NEEDED...  
JUST STICK IT  
TO THE WALL**

compact Dispenser has no moving parts. Not much bigger than a man's fists. MAGIC'S GP Pre-set Adhesive Mounting Strips mean no screws, nails, hammering or drilling is necessary. Dispenser affixes itself to machinery, metal, glass, tile, plaster walls or any smooth surface. All prices F.O.B. our factories. Buy a lot more safety and efficiency for a lot less money. Write us, or order through your safety supplies jobber today.

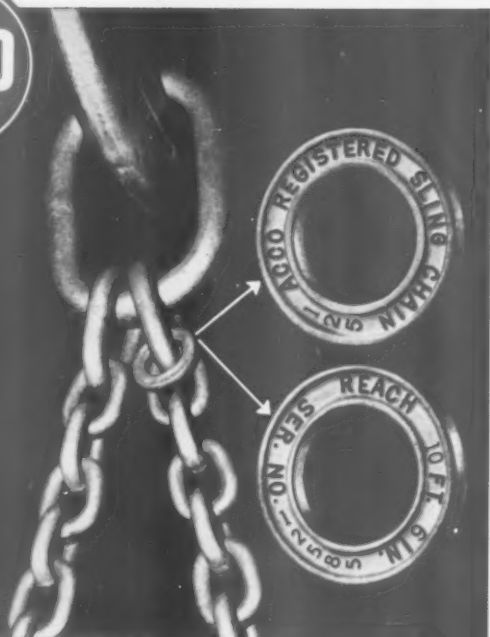
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San Francisco, Bridgeport, Conn.

**American  
Chain**

## Ramp Hazards

—From page 42

Transport Company, Avianca. According to reports by Avianca officials, ramp time was reduced at least 50 per cent.

The Loadair consists of three cars which are virtually flush with the airport pavement and travel on rails from the taxi strip to the terminal building. The aircraft is taxied onto these cars and mechanically locked in place.

Push-button operation moves the cars bearing the aircraft sideways until it is flush against the terminal. Both passengers and cargo are unloaded directly into the building. Plane servicing operations may also be handled from fixed units in the terminal to eliminate much portable equipment.

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## Trade Associations Sponsor Safety Meeting

THE WASHINGTON TRADE ASSOCIATION executives, in cooperation with the National Safety Council, claims the honor of being the first such group to sponsor a special safety meeting for members. At a meeting January 18, at the U. S. Department of Labor, outstanding speakers described the benefits of accident prevention and displays supporting that theme were furnished by the Folding Paper Box Association, U. S. Brewers Foundation, and National Safety Council.

In opening the meeting John B. Hulse, president, WTAE, and managing director, Truck trailer Manufacturers Association, Washington, expressed the hope that interest in safety would increase to the point where every association would make it a part of its regular program.

After welcoming the group, William L. Connolly, director of Bureau of Labor Standards, cited the emphasis given to Association of Small Business Programs by several committees of the Presi-

dent's Conference on Industrial Safety. He urged all associations to participate actively in the various state safety conferences so that there is more action in all industries at the local and state level. The U. S. Department of Labor, of course, would assist the states in an advisory capacity.

Association executives can enhance their position by providing more service in the form of a safety program according to G. O. Griffin, safety director, Dravo Corporation, Pittsburgh. Mr. Griffin, who is also president of the Western Pennsylvania Chapter of the American Society of Safety Engineers described local safety activities, in particular that of the Associated General Contractors whose safety program helped reduce compensation rates for concrete construction from \$7.50 per \$100 payroll in 1938 to only \$1.50 per \$100 payroll in 1951.

Labor's interest in safety appears to be keenest in industries with the highest injury rates. Charles F. Alexander, manager of the Industrial Department, National Safety Council, urged those present to stimulate the interest of top management, particularly in small business which has an injury rate two to five times higher than the large companies, most of whom comprise the Council's membership. He invited associations to use the services of the Council's director of the Small Business and Associations Program.

Ivan LeGore, manager, Accident Prevention Bureau of the Portland Cement Association, Chicago, stated that safety is a major activity of his association and that their program was an investment that paid for itself many times over.

The employee and public relations value of the U. S. Brewers Foundation safety program was described by Nixon de Tarnowsky, safety director, the F. M. Schaeffer Brewing Company, Brooklyn, who is on the executive committees of the National Safety Council's Food Section and the U.S.B.F. The Foundation's program was instrumental in saving his company approximately \$1,000,000 in insurance premiums during the past six years.



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Wire Rope  
Slings**

# Labor-Management

(From page 27)

The first point Otto and Sid made was that the program as set up in their industry could not have been effective if it had not been for the history of many years of harmonious relations between organized labor and management.

Here are the essential facts that grew out of management's and labor's dissatisfaction with the high accident rate of 1945:

In May of 1946 there was a wage conference between representatives of the employers and the unions, an annual affair. There was a safety provision in the existing contract. It read:

## SECTION 19—SAFETY

Employees and the Signatory Company are to comply with all safety rules as established by the Company from time to time.

The Local Union and the Company shall cooperate in selecting one or more safety committees which will meet at least once a month to consider all safety problems.

This section was not up for modification—as a matter of fact it is still the contract provision today. But the unions did have a proposal to make to the 1946 conference. In essence, the proposal was:

1. That conferences composed of union and management representatives be held to formulate general safety policies and procedures throughout the industry on the Pacific Coast.

2. That, because of the differences in laws and regulations in the different states, separate conferences be held in each of the three states, California, Oregon and Washington, with equal representation from the management and union from each plant in the state.

3. That the agendas, developed by union and management representatives, stress safety education, accident prevention and first-aid training.

That proposal was carried, and representatives of the Pacific Coast Association of Pulp and

Paper Manufacturers worked out the details with representatives of the two unions concerned with the Uniform Labor Agreement in the industry, the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers.

The decision covered only the bargaining unit—the Association members and the two unions. But it was decided from the start to invite to the joint conferences representatives of both managements and employees in plants outside the Association and not bound by its bargaining activities.

The three conferences were held

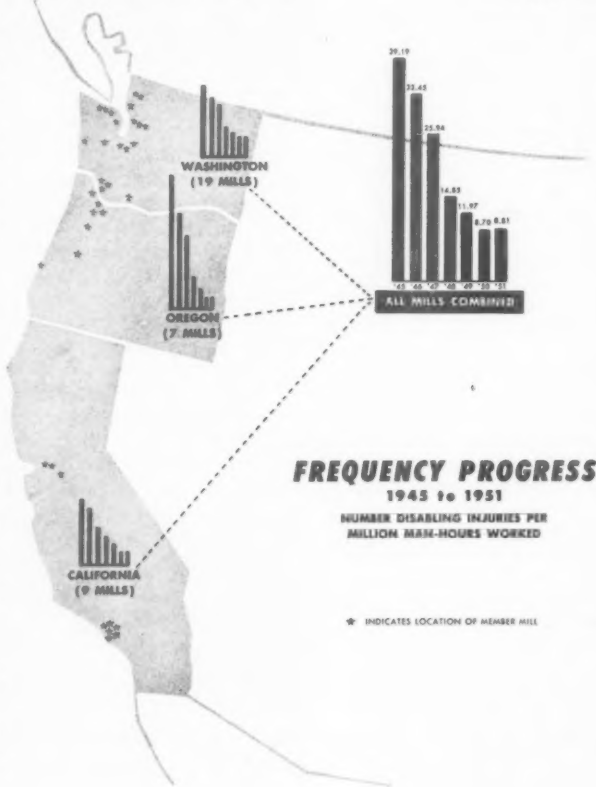
in the month of August, 1946, in Salem, Ore., Olympia, Wash., and Los Angeles, Calif.

They were, according to those who attended them, amazing affairs. They were free of rancor, full of appreciation and tolerance of the other man's point of view. There were differences of opinion, but they were friendly differences to be discussed, not issues to be raised and fought over.

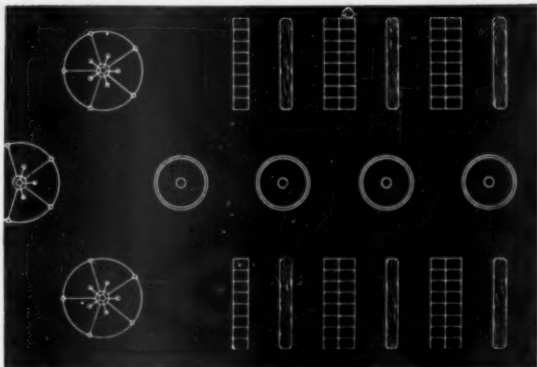
Labor union people got a better understanding of management's problems in setting the pace for safety—and the labor people recognized throughout that pace-setting was management's job.

Management learned, too. It was told, for example, how irritating it was to labor members of a plant safety committee to be kept waiting because the boss had some-

—To page 68



# Select The BRADLEYS That Suit Your Needs



In narrow washroom areas as above—semi-circular or wall type Bradleys are well adapted. Up to six persons are accommodated simultaneously at the 54-in. model.

At right is a combination of four 54-in. full circle Washfountains, two 5-stall and one 3-stall Bradley Showers.

## Each Provides The Utmost in Safe, Clean and Sanitary Washing

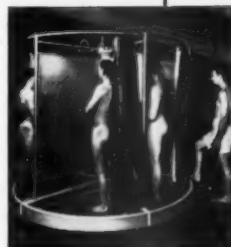
• Whether washing facilities are required for large groups or small, there is a sanitary Bradley Washfountain or Multi-Stall Shower that meets your exact requirement.

As the illustrations show there are 54-inch full circle models that serve 8 to 10 simultaneously, 36-inch models, wall mounting types, all furnished in various precast stone materials or enamel iron. (Stainless steel not available at present.) All have the central sprayhead in place of faucets, save space and reduce piping connections.

Bradley Multi-Stall Showers are made in 5- and 3-stall models and as a multi-person shower without divided stalls.

For the smaller washroom,—for such locations as cafeterias, laboratories, the Bradley DUO-Washfountain has the sanitary sprayhead and foot-control—(no faucets to touch).

Information and data in our revised Catalog 5204 will help you make your final selection. Copy on request. BRADLEY WASHFOUNTAIN CO., 2237 W. Michigan St., Milwaukee 1, Wis.



Bradley 5-Stall Group Shower (also furnished as Column Showers without stalls).



Up to 10 persons are served at a 54-in. circular Bradley.



Women workers and girls in schools and institutions enjoy the sanitary washing features Bradleys provide. For children, juvenile height pedestals are available.

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Full circle  
36-in. and 54-in.



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36-in. and 54-in.



The Duo



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Shower



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## Safety Takes to the Rails

SAFETY took to the rails on the Pittsburgh & West Virginia Railway Company's special.

Sparked by a safety-minded president, Charles J. Graham, the special train — diesel engine and president's car—went to the men on the job in its safety mission.

In cooperation with the Western Pennsylvania Safety Council's consultant, Earl Stephan, the special train toured the company's network of shops and yards. Special emphasis was placed on the importance of safety on the job, in the home and on the highways.

The special was given a clear track for the safety crusade which lasted a week. And as the train pulled out of the Rook Yard to spark the safety program, many of the company's top executives were on board to help take the safety message home to the company's employees.

The safety program was outlined by Chief Special Agent Alfred Weber, assisted by Stephan. Approximately 600 employees attended the safety meetings at various yards, shops and stops along the network of lines covered by the railroad.

The rallies were climaxed by movies—a special railroad safety film and another film entitled, "A Closed Book."

R. W. Bramwell, vice president-traffic, reports that the attitude and attention of employees were remarkable. He said their response to the meeting call was most satisfactory and they unanimously pledged themselves to practice safety on the job and in their homes.

In all the safety meetings, the supervisory personnel played an active part. Special emphasis was placed on building a good safety record for the company by a closer relation between the individual worker and his supervisor.

And to prove the road's interest in building one of the country's best safety records, 11 top executives were aboard when the whistle sounded for the initial trip.

A series of one-hour rallies dedicated to safety were held throughout the week. Each meeting was attended by 75 to 100 employees.



Earl Stephan, safety consultant for the Western Pennsylvania Safety Council, plays "brakeman" on the safety special.



All aboard! The safety special of the Pittsburgh & West Virginia Railway gets ready to pull out of Rook Yard on its first trip to take the safety program to employees along the company's lines.



## "dip process" assures safer, more flexible GLOVES

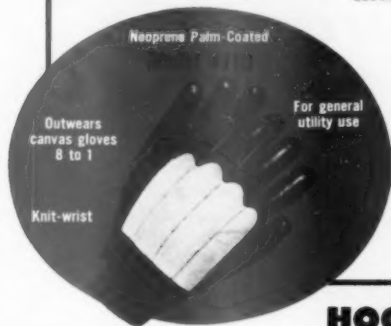
Hood's scientific "dip process" precisely controls the amount and viscosity of latex coating on each glove—assures the proper thickness and flexibility needed to make each glove most efficient for the type of work for which it's intended.

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**Make your own test—  
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**GREATEST ADVANCE in eye safety**



**SINCE THE  
INVENTION  
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**The K-LENS-M Liquid Lens Cleaning and Anti-Fogging Station  
—the economical, efficient way to clear vision.**

With K-LENS-M Lens Cleaning and Anti-Fogging Stations, your workers can have clear protected vision at all times. Whatever your plant conditions, employees won't have to remove goggles or shields because of dirt or fog—and risk loss of eyesight.

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**K-LENS-M** Dispenser Cabinet with Anti-Fogging Station is a complete lens cleaning unit; easy to install, use and service.

Contact your safety equipment  
supplier or write direct to

**The WILKINS Co.,  
INCORPORATED  
Cortland 1, N. Y.**

# Windups and Letups

(From page 40)

liners to shells thus reducing the possibility that their own hands will be caught.

7. A canvas flap securely attached to the roller (Fig. 2) will give the roll a secure starting grip on the fabric.

## Letoffs

8. On letoffs, most accidents occur while the machine is running. They occur while machine operators are threading under power or cutting threads which have wrapped around the roll. Trimming torn edges at inspection points, clearing jams on "S" rolls, or operating equipment when wearing gloves also result in injuries.

9. Employees must be kept away from inrunning rolls.

10. Gloves are not needed on these operations and should not be permitted.

## Mechanical Recommendations

11. The general method of guarding windups with safety cables to stop the equipment is not sufficient to prevent accidents. An operator caught by a moving machine is usually not able to reach the safety cable to stop the machine. For this reason the fol-

lowing mechanical and/or electrical guard devices are suggested:

a. Enclosure guards with interlocking gates offer the most complete protection. (Fig. 3)

b. Photo-electric cell controlled, dynamic braking. This method presents some difficulties. As the roll winds up and increases in size, the safety distance between the photoelectric beam and the pinch point decreases, consequently the machine may not be stopped by the time operator reaches the pinch point.

c. Pressure bar across bite of roll. As above, not effective where increasing size of fabric roll will interfere.

d. Elimination of center windups. Some hazards can be reduced by the elimination of any unnecessary rolls.

e. Edge control. Fabric wrinkle removing devices will help to eliminate the necessity of adjustment while the rolls are in operation.

f. Rolls as high as possible. Design revision should be encouraged, to raise heights of rolls in new installations and to change existing equipment.

g. Pressure bars instead of safety cord. Shut off switches should be activated by pressure plates or bars and not by hand operated safety cables. (Fig. 3)

h. Separation of rolls to avoid pinch points. This will necessitate major machine design changes.

i. Proper placement of foot switches. Such switches should be of the con-



Fig. 3. Electrically interlocked enclosure on Banner Cutter let-off. (U.S. Rubber Co.)

stant pressure type, permanently fastened down and away from the danger point of the windup.

j. Large quantities of static electricity may be accumulated during windup operation. Grounding devices, therefore, should be provided.

## Education for Windup Safety

12. Since it is recognized that many of the hazards connected with windups and letoffs are difficult to eliminate by engineering revision, the importance of showing every operator the dangers of these operations is vital. (See Safety Instruction Card, Number 780.) Many operators, because of the difficulty of visualizing the hazards, will make safety controls inoperative unless a good training job is done. Re-education is especially important where employees are moved from slower to faster windup operations.

## ACKNOWLEDGEMENT

The preliminary draft for this data sheet was prepared by the Engineering Committee, Rubber Section, National Safety Council. Acknowledgement is gratefully made to the engineering staffs of many companies, and to those who contributed injury reports and photographs.

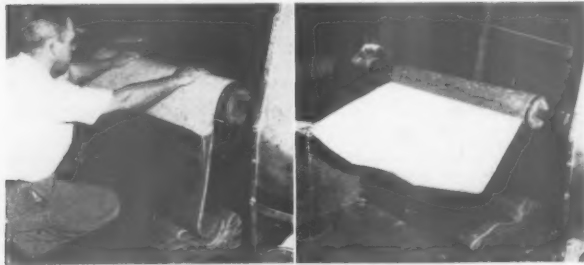


Fig. 2. Canvas flap starter on wind up rolls. (U.S. Rubber Co.)

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| 1. Improved quality of production              | 5. Reduced labor turnover      |
| 2. Increased production per worker             | 6. Lowered training cost       |
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| 4. Improved accident record                    | 8. Reduced absenteeism         |
|  | 9. Improved employee relations |

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Please send me the brochure "Eyes Right for the Job," and complete details on the Bausch & Lomb Occupational Vision Service.

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Company.....  
Street.....  
City.....Zone.....State.....

# Labor-Management

(From page 62)

thing "more important" than safety to delay him. And how much harm was done when the boss sat in a conference and let his incoming phone calls interrupt proceedings repeatedly.

Together they worked out methods for increasing the close teamwork between local safety committees and supervision.

Understandings were reached on the problems of discipline in safety work, on horseplay, on safety committee authority.

But these specific things, apparently, were not the most important outcomes of the conferences. There was something else, something bigger, something more subtle and, at the same time, something enormously simpler and more practical.

Management, and its Association, came out of those conferences convinced that it had something to learn from labor, and that labor was sincere in wanting to help prevent accidents.

Labor came out of those conferences with a better appreciation of the problems, and a greater conviction that management meant what it said when it asserted that safety was a matter of top management concern.

Nobody involved would claim that a series of meetings of this type was a magic wand to be waved and introduce the millennium. But the conferences did change some men's thinking. They went back to their jobs in plant offices and on the plant floors thinking, "Maybe these other guys do mean business! At least I'll give 'em a chance to show that they do."

And soon the plants and the unions received jointly edited reports of the joint conferences, with the points of agreement, disagreement and confusion laid out in simple, understandable form. These reports, in the hands of foremen and labor union officials, were effective levers with which

to pry the dubious and stubborn into cooperation.

In the last half of 1946 accidents nose-dived. In 1947 accident rates were down a full third from 1945 levels. In 1947 there was another series of three joint safety conferences, and the 1948 frequency rate dropped 43 per cent below the 1947 figure.

The results of their venture into mutual confidence were so spectacular that the procedure set up in 1946 is still followed. In each plant the local joint safety committees function. In each state the annual joint safety conference is held. Full publicity is given to the discussions and to the results of deliberations.

And the accident rate hangs, as we said at the start of the article, at just about 22 per cent of the rate for 1945, the last full year before the program went into effect.

Of course, it wasn't just the conferences. Of course, the result is the product of intelligent engineering, well conceived education, sharpened interest on the part of management and employees that expresses itself in countless specific activities that were never the subject of discussion at joint management-labor meetings.

But the conferences did do something. They helped wipe out any suspicion on either side that the other group sought selfish advantage. It helped build confidence, and from the confidence came teamwork, and from the teamwork came a situation in which able men could courageously put into action progressive programs of action, without worrying that a competing group would criticize or steal the credit.

You can't, all parties discovered to their amazement, steal credit when the credit is already yours as a member of the team that wins the game. And you can't conveniently throw rocks through plate glass windows when

the windows belong to you as a member of the team.

There are, of course, ramifications of these problems which go far beyond the safety problems of the industry. But this is a safety magazine, and I'll leave them to publications more learned than this one in such deep fields as labor relations and personnel work.

This much is clear. The members of the Association, hard-boiled business men in a hard-boiled industry, working conscientiously for production and profit, like this joint labor-management idea in their particular situation. And the hard-boiled, practical unionists of the two unions in the industry like it, too.

They will tell you if you ask them that they like what it has done to cut accidents, but they like it for larger and broader reasons concerned with harmonious working relationship, too.

## Safety Leaders

—From page 50

Marathon Corp., Ashland, Wis.  
Lloyd A. Fry Roofing Co., Compton, Calif.  
Riegel Paper Corp., Riegelsville Mill.  
Johns-Manville Corp., Tilton Plant.  
Volney Felt Mills, Inc., Mishawaka, Ind.  
Spaulding Fibre Co., Hayes Plant, North Rochester, N. H.

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St. Regis Paper Co. (Canada) Limited, Dryden, Ont.  
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Fibreboard Products, Inc., South Gate, Calif.

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Container Corp. of America, Baltimore.  
Container Corp. of America, Sixth Street, Philadelphia.  
Gaylord Container Corp., Greenville, S. C.  
Southwest Box Co., Sand Springs, Okla.  
South West Corrugated Box Co., Fort Worth, Tex.  
Hankins Container Co., Miamisburg, Ohio.

—To page 70



## Use **Ampco<sup>\*</sup> Safety Tools**

**on every job where a spark  
can mean disaster**

### How to choose Safety Tools

For tools subject to impact  
and/or torque — specify  
tools of Ampco Metal.


For jobs around acetylene  
and similar gases — spec-  
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For tools with cutting edges  
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<sup>†</sup>Trademark  
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ONCE a fire starts, all you can do is fight to hold your loss to a minimum. But why take chances? A few dollars invested in Ampco  Safety Tools today prevent the sparks that might start costly fires tomorrow. Such protection is the cheapest insurance you can buy.

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T-6

# Safety Leaders

(From page 68)

Bay West Paper Co., Green Bay, Wis.  
**Roofing Paper Group**  
 Johns-Manville Products Corp., Mar-  
 rero, La., Plant.  
 Johns-Manville Products Corp., Los  
 Angeles Plant.  
 Lloyd A. Fry Roofing Co., Stroud,  
 Okla.

**Insulating and Building Board  
 Products Group**  
 Southern Johns-Manville Products  
 Corp., Jarratt, Va.

**Pulp and Paper Specialties Group**  
 Old Colony Envelope Co., Westfield,  
 Mass.  
 Kimberly Clark Corp., Atlas Mill,  
 Appleton, Wis.  
 Research Products Corp., Madison,  
 Wis.  
 Lily-Tulip Cup Corp., French Lick,  
 Ind.

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 Okla.

**Group B**  
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**Group A**  
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**Group C**  
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 Gulf Oil Corp., Fort Worth Produc-  
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**Group A**  
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**Group B**  
 Cooperative Refinery Assn., Great  
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**RESEARCH AND DEVELOPMENT**  
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**Group A**  
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**Group B**  
 Wisconsin Power & Light Co., Madi-  
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**Group C**  
 Worcester County Electric Co.,  
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**Group D**  
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 Adams, Mass.  
 Worcester County Electric Co.,  
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 Dept., City of Duluth, Minn.

Arlington Gas Light Co., Arlington,  
 Mass.

Salem Gas Light Co., Salem, Mass.

Empire Southern Gas Co., Brady,  
 Tex.

Wachusett Gas Co., Leominster,  
 Mass.

**ELECTRIC DIVISION**

**Group A**  
 Georgia Power Co., Atlanta.

**Group B**  
 New Jersey Power & Light Co.,  
 Dover, N. J.

**Group C**  
 Quincy Electric Light and Power Co.,  
 Quincy, Mass.

Worcester County Electric Co., Pal-  
 mer, Mass.

Mississippi Valley Public Service Co.,  
 Winona, Miss.

Worcester County Electric Co., Gard-  
 ner, Mass.

Southern Berkshire Power and Elec-  
 tric Co., Great Barrington, Mass.

Granite State Electric Co., Lebanon,  
 N. H.  
 Northampton Electric Lighting Co.,  
 Northampton, Mass.

## Rubber

**DIVISION I**

Firestone Tire & Rubber Co. of  
 Calif., Los Angeles.

**DIVISION II**

Dryden Rubber Div., Sheller Manu-  
 facturing Co., Chicago.

**DIVISION III**

B. F. Goodrich Co., Tuscaloosa, Ala.

**DIVISION IV**

B. F. Goodrich Chemical Co., Port  
 Neches, Tex.

Firestone Tire & Rubber Co., Lake  
 Charles, La.

B. F. Goodrich Co., Cadillac Plant.  
 General Tire & Rubber Co., Bay-  
 town, Tex.

Goodyear Tire & Rubber Co., Quebec,  
 Ind. Centre No. 5.

**DIVISION V**

The Firestone Plastics Co., Potts-  
 town, Pa.

University of Akron Government  
 Laboratories, Akron, Ohio.

B. F. Goodrich Co., DuBois Plant.

Firestone Tire & Rubber Co., Xylos  
 Plant, Memphis, Tenn.

The Flintkote Co., Whippany, N. J.

U. S. Rubber Reclaiming Co.,  
 Cheektowaga, N.-Y.

Canadian Latex, Limited, Montreal.

Flintkote Co. of Canada, Limited,  
 Toronto.

The Ohio Rubber Co., Conneautville,  
 Pa.

United States Rubber Co., Burlington  
 Plant.

Lobl Manufacturing Co., Middleboro,  
 Mass.

## Tanning and Leather Products

**DIVISION I**

A. C. Lawrence Leather Co., Sole  
 Leather Tannery, Hazelwood, N. C.

**DIVISION II**

Allied Kid Co., Standard Div., Wil-  
 mington, Del.

**DIVISION III**

**Group A**  
 General Shoe Corp., Huntsville, Ala.

General Shoe Corp., Cowan, Tenn.

General Shoe Corp., Lewisburg, Tenn.

General Shoe Corp., Plant No. 2,  
 Gallatin, Tenn.

**Group B**  
 General Shoe Corp., Frankfort, Ky.

General Shog Corp., Hohenwald,  
 Tenn.

General Shoe Corp., Atlanta, Ga.

General Shoe Corp., Ninth Ave. Plant,  
 Nashville, Tenn.

General Shoe Corp., Sole Casing Div.,  
 Nashville, Tenn.

General Shoe Corp., Danville, Ky.

General Shoe Corp., Marman Bag,  
 Nashville, Tenn.

Racine Glove Co., Rio, Wis.

—To page 75

# Keep him on the job!



## Hexachlorophene in Formula #99 Antiseptic Soap cuts absenteeism by combating dermatitis and infections!



You can solve many dermatitis problems—and protect your employees at the same time—by a simple change in washroom supplies. Armour's antiseptic soaps help relieve industrial dermatitis and reduce the danger of infection from small cuts.

Figures from various Bureaus of Labor Statistics show that over 50% of all occupational diseases are classed as industrial dermatitis. Most of these are caused by daily contact with irritants like cutting oils, solvents, abrasives, acids, alkalis, waxes, etc. In addition, workers frequently suffer minor cuts that can be a source of skin infection. To help combat this health problem—and overcome the resultant loss of man-hours, Armour has developed Formula #99 Antiseptic Soap especially for industrial use.

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- ☐ Formula #99 Liquid Antiseptic Soap sample

Name ..... Title .....

Firm .....

Address .....

City ..... Zone ..... State .....

# COMING EVENTS

*In the Field of Safety*

## Apr. 7-10, Detroit, Mich.

Twenty-second Annual Meeting, Michigan Safety Conference. (Hotel Statler). Frederick K. Krupp, executive secretary, 174 East Atwater Street, Detroit 26, Mich.

## Apr. 9-10, Louisville, Ky.

Seventh Statewide Safety Conference and Exhibit. (Kentucky and Seelbach Hotels). Estel Hack, managing director, Louisville Safety Council, Speed Bldg., Louisville 2, Ky.

## Apr. 15-17, Buffalo, N. Y.

Twelfth Western New York Safety Conference and Exhibit. (Statler Hotel). Earl L. Hubbard, 150 Warren Ave., Kenmore, N. Y.

## Apr. 15-17, Columbus, Ohio

Twenty-second All-Ohio Safety Congress and Exhibit. (Deshler Wallick Hotel). James H. Fluker, superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

## Apr. 15-17, Pittsburgh, Pa.

Twenty-seventh Annual Western Pennsylvania Safety Conference. (William Penn Hotel). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 605 Park Bldg., Pittsburgh 22, Pa.

## Apr. 16-18, Charleston, W. Va.

Eighteenth Annual West Virginia Safety Conference. (Daniel Boone Hotel). Mrs. W. C. Easely, acting managing director, West Virginia Safety Council, 316 Masonic Bldg., Charleston, 1.

## Apr. 21-22, Toronto, Ont.

Industrial Accident Prevention Association, Annual Conference. (Royal York Hotel). R. G. D. Anderson, general manager, Industrial Accident Prevention Associations, 600 Bay St., Toronto 2, Ont.

## Apr. 22-23, Fort Wayne, Ind.

Ninth Annual Northeastern Indiana Safety Conference and Exhibit. Ivan A. Martin, manager, Safety Council, Chamber of Commerce, Fort Wayne 2, Ind.

## Apr. 23, Bridgeport, Conn.

Seventh Annual Connecticut Industrial Safety Conference. (Hotel Stratfield). A. M. Addison, manager, Connecticut Safety Society, c/o Connecticut State Highway Dept., Hartford, Conn.

## May 4-6, Asheville, N. C.

Twenty-second Annual North Carolina State-wide Industrial Safety Conference. (George Vanderbilt Hotel). H. S. Baucom, safety director, North Carolina Ind. Comm., Raleigh, N. C.

## May 6-8, Chicago

29th Annual Midwest Safety Show. (Congress Hotel). Joseph F. Stech, Manager, Greater Chicago Safety Council, Suite 806, 10 N. Clark St., Chicago 2.

## May 6, Easton, Pa.

Twenty-fifth Annual Eastern Pennsylvania Safety Conference. (Hotel Easton). Harry C. Woods, executive secretary, Lehigh Valley Safety Council, 602 E. Third St., Bethlehem, Pa.

## May 8-9, Baltimore, Md.

Statewide Safety-Health Conference and Exhibit. (Lord Baltimore Hotel). Joseph A. Haller, director of safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

## May 15-17, Richmond, Va.

Eighteenth Annual Virginia Statewide Safety Conference. (Jefferson Hotel). William M. Meyers, executive secretary, Richmond Safety Council, 803½ E. Main St., Richmond 19, Va.

## May 22-23, Duluth, Minn.

Twenty-eighth Annual Conference, Lake Superior Mines Safety Council. (Hotel Duluth). John A. Johnson, chief, Accident Prevention and Health Division, Region V, U. S. Bureau of Mines, 18 Federal Bldg., Duluth, Minn.

## May 27-29, St. Louis, Mo.

Central States Safety Conference. (Hotel Jefferson). Reyburn Hoffman, secretary-manager, Safety Council of Greater St. Louis, Room 820, 511 Locust St., St. Louis 1, Mo.

## June 2-4, Washington, D. C.

President's Conference on Industrial Safety. (Department of Labor Bldg.) William L. Connolly, chairman, Coordinating Committee, Bureau of Labor Standards, U. S. Department of Labor, Washington 25, D. C.

## June 16-18, Long Beach, Calif.

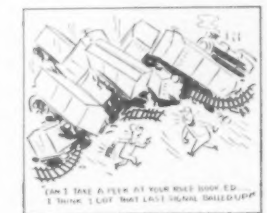
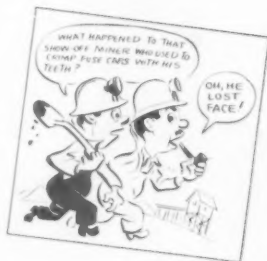
Western Safety Conference (Wilton Hotel). Joseph M. Kaplan, secretary-manager, Greater Los Angeles Chapter, National Safety Council, Suite 730, 610 South Main St., Los Angeles 14, Calif.

## Sept. 11-12, York Harbor, Me.

Twenty-fifth Annual Maine State Safety Conference. (Marshall House). A. F. Minchin, secretary, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

## Sept. 16-18, Cleveland, Ohio

Fourteenth Annual Ohio State Safety Conference. (Hotel Carter). Carl L. Smith, secretary-treasurer, Ohio State Safety Council, 2073 E. 9th St., Cleveland 15, Ohio.



## Oct. 20-24, Chicago

Fortieth National Safety Congress and Exposition. (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.



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## Small Businesses and Associations

(From page 38)

smaller companies, the proportion would undoubtedly be even higher.

In the several studies which have been made, the accident frequency of smaller companies runs from two to five times that of the larger companies (see chart). In brief, there is a need to reach thousands and thousands of smaller companies where there is a fertile field for all of us who are interested in helping industry as a whole.

### Why Single Out Small Business?

The question has arisen as to the need for a special program to reduce accidents in small business. One insurance company safety engineer feared that such emphasis might be construed as unreasonable criticism of small business. He felt that small business might resent this "holier than thou" attitude on the part of professional safety men employed by larger companies. A chamber of commerce executive complained that the Council's program accentuated the cleavage which various groups are encouraging. He believes—and rightly so—that basically the problems of small business, whether accident prevention or not, are the same for all sizes of companies. But that merely reinforces our point.

The Council's Small Business Committee is trying to bring the small business safety effort to the same high level of success achieved by so many larger companies. It does not feel that it can avoid the issue or "hide its head in the sand" because it is known that the small companies have proportionately more accidents than the large companies. The reasons for this poor showing in small business are not necessarily calloused indifference, for which small business managers could be criticized, but rather a lack of awareness or understanding of the benefits of accident prevention. It is the Council's aim to stimulate the interest of small business, to suggest

a simple yet effective program and to offer help in reducing accidents.

It is easy enough to say that the basic principles of accident prevention are the same for all sizes of companies but it should be apparent that the method of application must vary. The smaller companies do not have the staff or organization to even gauge the nature of their problem much less solve it without extensive outside help. The fact that the U. S. Department of Commerce, trade associations and other organizations such as chambers of commerce have set up special organizations for helping small business is proof that the method of approach must be different even though the fundamentals do not vary.

### Grand Rapids Conference

On February 26 the Greater Grand Rapids Safety Council featured a Small Business Clinic at the regular monthly meeting of the Industrial Division. As moderator, your reporter was outnumbered four to one by personnel managers but the speakers, all of whom were part time safety supervisors, provided plenty of food for thought for the more than 100 supervisors and personnel men at the evening meeting. Both the panel members and the audience represented small

and medium sized companies so they were all talking the same language. The discussion from the floor was evidence of their interest.

Clyde Berg, personnel director of National Brass Company, urged the group to stop fretting about lack of accident prevention facilities and just do a common sense job. He reminded his audience that the small plant manager and personnel man knows his jobs and his people better than supervisors in large corporations, and that it should be easier to fit the man to the job and the job to the man. He pointed out that, on the other hand, the lack of trained personnel within a small company complicated promotions or transfers and he cautioned the group not to overlook proper placement under those conditions.

Joseph Gruszka, personnel director for the Jarecki Machinery Company discussed the problem of eye protection, pointing out that within one year his company reduced eye cases 90 per cent through personal supervision. Formerly, eye cases accounted for 40 to 60 per cent of their injuries and while none of them were serious there was always the threat of a permanent disability. He told the group that most of the costs of eye injuries are hidden and explained how their first-aid program helped them prevent accidents.

Arthur McGrath, personnel manager for Stowe-Davis Company supplemented Mr. Berg's story with a brief talk on "Job Instruction." When he started his present assignment several months ago, he made it a point to avoid use of the term safety but he did try to make safety a part of each job instruction. In his company, group conferences and employee participation pay off in a better understanding of the job.

Donald Thompson, personnel director for Wolverine Brass Works, discussed foundry hazards pointing out how the unseen enemy, silicosis, has been virtually eliminated through sound engineering and supervision. Proper placement

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and job instruction was touched upon again and again.

Perhaps this clinic was unique in the fact that none of the speakers advocated any complicated or elaborate program that was beyond the reach of even the smallest company. It was apparent that any of the suggestions could be carried out with a minimum expenditure of time and money. Most encouraging was the constructive attitude that prevailed. There were but one or two full time safety engineers in the entire crowd but there was no doubt that the supervisors and personnel present could handle accident prevention in their own way—and do a good job.

#### **Wanted: More Big Brothers**

The complete story isn't in but in several localities professional safety engineers have found ready acceptance of their offer to help smaller companies with their accident fire prevention problems. In one medium size midwestern city the chamber of commerce is cooperating with local safety engineers in offering this very practical service. The engineers provide the technical assistance and the chamber of commerce stirs up local interest by publicizing the idea.

The ASSE deserves a lot of credit for suggesting this plan several years ago. Perhaps one or two working plans will provide the background information and stimulate the other groups into similar activity. There is already a move on foot in at least one trade association to extend the service to their industry.

#### **Safety Leaders**

—From page 70

##### **Textile**

##### **Division I Group A**

Tallasse Mills of the Mount Vernon-Woodberry Mills, Inc., Tallassee, Ala.

##### **Group B**

Industrial Rayon Corp., Covington, Va.

##### **Group C**

Nye-Wait Co., Auburn, N. Y.

##### **Division II**

##### **Group A**

Forstmann Woolen Co., Weaving Mill, Passaic, N. J.

—Next page

# **FERALUN**

- **takes punishment**
- **gives years of safety service**



AS 107

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- 1 It protects against slips and falls.**
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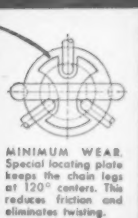
Reason? Feralun consists of a special cast iron matrix with a diamond-hard abrasive imbedded in the walking surface.

Gripping action is provided by the abrasive, not by the scoring or indentations in the metal. ● Get the full story on Feralun. Find out why millions of feet of this long-lasting anti-slip flooring are now in use.

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MAGNET CHAINS****DO MORE WORK, LAST LONGER,  
COST LESS than conventional types!****HERE'S WHY—**

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• S. G. TAYLOR CHAIN COMPANY  
• Dept. 7, Hammond, Indiana  
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*Chain* SINCE 1873

**Group B**

Celanese Corp. of America, Staunton, Va.

**Group C**

The Graniteville Co., Vauluse Div., Vauluse, S. C.

**Transit****DIVISION I**

Nueces Transportation Co., Corpus Christi, Tex.

**DIVISION II**

New Orleans Public Service Inc., New Orleans.

**Wood Products****WESTERN FIR AND HEMLOCK**

—LOGGING DIVISION  
Weyerhaeuser Timber Co., Snoqualmie Falls Branch.

**WESTERN PINE AND REDWOOD**

—LOGGING DIVISION  
Saginaw and Manistee Lumber Co., Flagstaff, Ariz.

**SAWMILLS DIVISION****Group A**

Edward Hines Lumber Co., Hines, Ore.

**Group B**

—Wood-Mosaic Co., Louisville, Ky.  
Boise Payette Lumber Co., Council, Ida.

**PLYWOOD & VENEER DIVISION**

Wood Mosaic Co., Louisville, Ky.

**FURNITURE DIVISION**

The Mengel Co., Twelfth Street, Louisville, Ky.  
Hickory Manufacturing Co., Hickory, N. C.  
Kroehler Manufacturing Co., Charlotte, N. C.

**WOOD PRESERVING DIVISION****Group A**

Kopper Co., Inc., Charleston, S. C.

**Group B**

Koppers Co., Alexandria, La.  
Koppers Co., Superior, Wis.

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COOPERAGE DIVISION  
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Louisville Cooperage Co., Plant No. 1, Louisville, Ky.

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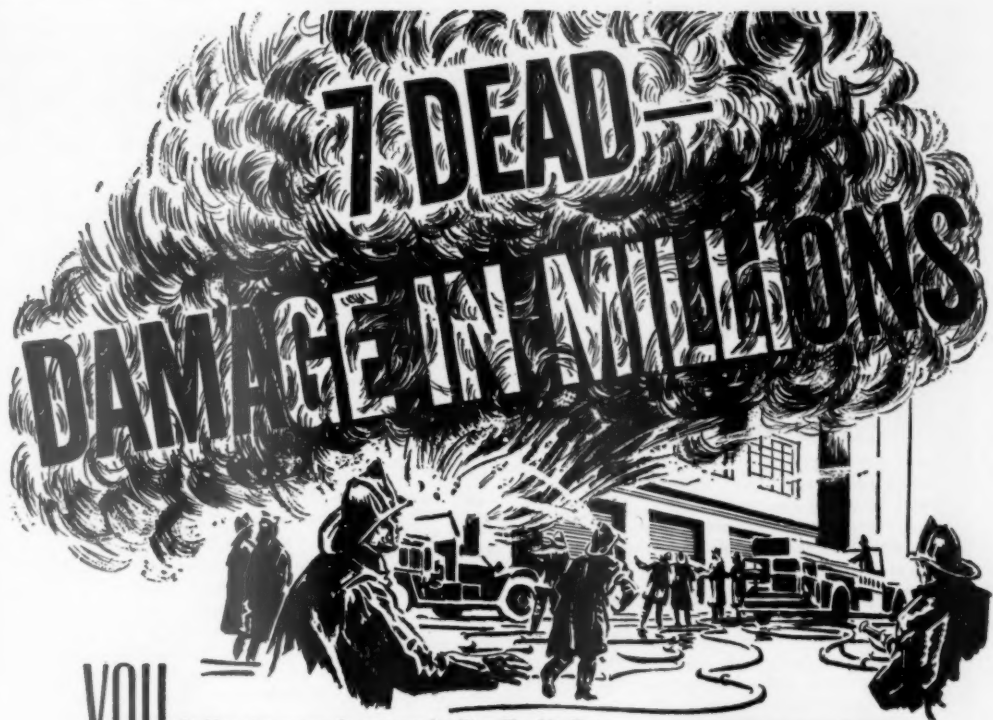
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Potlach Forests, Inc., Lewiston, Ida.

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National Distillers Products Corp., Salem, Mo.  
Brown-Forman Distillers Corp., Blue Grass Cooperage Div., West Union Stave and Heading Mill, West Union, W. Va.



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**LEGGE**  
TO STAND ON



**LEGGE SYSTEM**  
of Safety Floor  
Maintenance

# Highways of Speech

(From page 22)

will build a sound foundation of understanding. This he can do by discussing not only the items that he wants to talk about but also matters that are important to his people. Thus the supervisor, by recognizing many of the human behavior factors before they cause accidents, may spend his efforts in preventing accidents rather than in making reports after accidents occur.

We have to understand what motivates people—what are their wants and needs. These include need for recognition, job satisfaction, self-expression, and self-respect. When these are disturbed, we may expect behavior not conducive to safe and careful work.

Then when we provide the satisfiers of these motives—such as participation, sharing of responsibilities, praise, right treatment—we are improving the behavior of the man and helping him to work with his head, his hands, and his heart, and thus become his own safety expert.

What about attitude?

It does little good to tell a

person that he or she must have a safe attitude. A correct attitude toward safety can be built only by a series of satisfying, helpful experiences: discussions, for example, on specific things that people should or should not do on their jobs, on definite operations, and on solving actual problems.

No less valuable an attitude builder is the example that supervisors, staff personnel, and other management people set by their own actions and attitudes.

## Building Proper Attitudes

Many of the safety attitudes included in successful company safety programs have direct bearing on the development of proper employee motivation, attitude, and behavior. First-aid training, motion pictures, film strips, safety graphs, safety publications, statistics, posters, safety meetings, safety award plans, pre-job analysis, safety observation plan, safety lessons, model equipment—these are but a few.

The programming of all these

activities, focused to do the most good at the particular place and time, makes a man or woman *think* safety and *feel* that safety is important.

An effective addition to company safety programs has been the safety observation plan, designed so that unsafe practices and their underlying causes can be determined and measures taken to eliminate or correct them before an accident occurs. Regular observations are made of work in progress, adherence to safe operating is noted, and the practices themselves are studied to see if they are adequate. Results of safety observations form a basis for review training and for putting safety on a preventive rather than a corrective basis.

All Bell Companies have in their safety programs routines for reporting unsafe plant conditions. Everyone is encouraged to report broken tools, rotted poles, power wire exposures, damaged tires, corroded wire, faulty equipment, etc. It is stated policy to provide tools, materials, and equipment which are safe when used with reasonable skill and care. Every effort is made to design plants that may be constructed and maintained without risk of accident.

Comparative reports on all types of accidents are issued periodically. These keep everyone informed as to the causes of accidents and serve to stimulate interest and friendly rivalry. Information for the reports is furnished by all the Bell Companies.

First-aid training was introduced in the Bell System almost 40 years ago with the assistance of the American Red Cross. During World War II, civilian defense organizations and Red Cross chapters had thousands of telephone people in their ranks as first-aid instructors. In the present national emergency, first-aid training programs have been accelerated and telephone employees once again are playing important roles.

The Bell System, through membership in various organizations—such as National and local Safety



You can't always believe the camera. This New York telephone truck wasn't touched by the huge tree which seems to be crushing it.

Councils, and the American Standards Association—keeps in touch with the progress of safety programs throughout the country. The telephone companies also work closely with gas, electric, and power companies and other utilities so that best use may be made of pooled experiences.

The Bell System operates some 55,000 trucks and motor vehicles. These vehicles, along with winches, derricks, pole-hole diggers, trailers, cable plows, tractors, and other heavy power equipment, present a substantial exposure to accidents. With the growth in traffic on streets and highways, operation of this equipment has become increasingly difficult.

In the final analysis, success of the motor vehicle safety program rests in the hands of the 75,000 regular and occasional operators of this automotive equipment. That is the reason safety programs utilize every possible educational method to develop in each driver an understanding of the techniques of safe driving and to make him feel his responsibilities.

#### The Plant Department

The Plant Department consists primarily of 157,000 men engaged in the engineering, construction, installation, and maintenance activities of the telephone business. They operate most of the trucks and other motor vehicles. They use a variety of power-operated tools, climb poles, come in close contact with winches and cables, and handle heavy equipment.

Much of their work is done on busy streets, in the underground systems under the streets, or along highways during all kinds of weather. Sleet and windstorms, often under blizzard conditions, and hurricanes as well, cause broken trees, poles, and wires.

Rubber gloves and other protective equipment which are always available, and special precautions to meet best each condition, prevent accidents at the time of such increased exposures.

It is noteworthy that from 1941 to 1950 the accident frequency rate for plant men was reduced from 6.68 to 1.80 lost-time cases per 1000 men (or from 3.34 to .90 per million hours of exposure), and that during each of the last

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**ACCIDENT REPORT**

**Cause of accident:**  
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**Means of prevention:**  
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### NON-SLIP—EVEN ON STEEP INCLINES!



ALGRIP is made by rolling tough abrasive grain (the same kind used in grinding wheels) uniformly as an integral part of the steel plate's upper portion. When you walk on ALGRIP, hundreds of tiny safety brakes grip your feet at every step. Result: It's virtually impossible to slip—even on steep inclines.

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ALGRIP's safety isn't merely a surface treatment. Note the even distribution and depth of the abrasive grain. As the surface wears, new particles are exposed, so ALGRIP keeps its non-slip qualities for a lifetime. It needs no maintenance. Rolled steel makes it stronger than other abrasive floorings. It withstands hard blows and heavy loads without cracking or breaking. And thinner sections can be used without reducing load carrying capacity.

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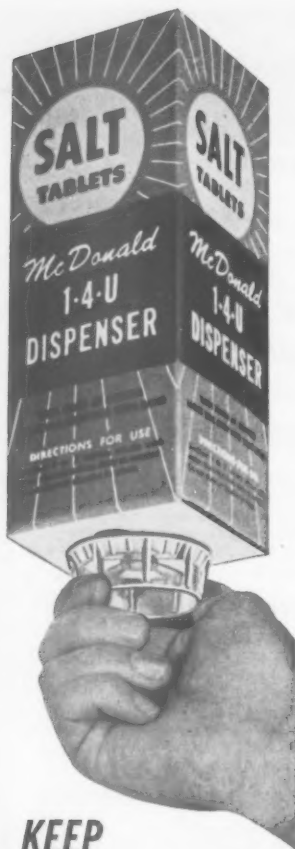
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seven years new all-time low rates were set. This splendid improvement is further evidence that the telephone companies really have under normal conditions no hazardous jobs—provided, of course, that proper tools are used, proper training is given, and everyone follows instructions.

This general improvement means that 666 fewer men were killed performing telephone work during the 20-year period 1931-1950 than would have died had the 1926-1930 rate continued. That is a saving beyond price. It is easy to see why telephone men are proud of their safety record.

Still other contributions to safety have been made by Bell Telephone Laboratories, by Western Electric Company, and by telephone company engineers in building safety into the design, manufacture, and operation of tools, plant, equipment, and motor vehicles. Accident prevention is accepted as part of the planning and execution of every Bell System job.

### Traffic, Commercial, and Accounting

One element in the accident problem among the 262,000 traffic employees, 50,000 commercial employees, and 42,000 accounting employees is care in simple things not related to the technicalities of the job. Such acts as hurrying across floors, in the halls and on the stairs, not looking, not using handrails, leaving desk drawers open, and others, can be hazardous. Job operations requiring special attention among the traffic forces include cord handling, reaching at the switchboard, carrying head sets, and getting on and off switchboard chairs.

Operations requiring particular attention in the commercial department include lifting and motor vehicle driving by the coin collectors. Operation of business machines in the accounting department requires special care.

One effective way for keeping interest in safety alive in these offices is the safety committee. Members of these committees make their own actions safe as an example to the rest of the force;

## The South Has Come Back!



THE SOUTH was well represented at the recent Advanced Training Course at National Safety Council headquarters. After a stirring speech on how he does safety work in Tarboro, N. C., S. Keith Robeson, safety supervisor for Carolina Telephone and Telegraph Company, was presented with the cap of Confederate gray by his fellow "rebels" in the class.

In the above group are: Leslie J. Quinker, The Schenley Co., Louisville, Ky.; Joseph E. Nichols, Reynolds Metals Co., Richmond, Va.; Allen Ater, Western Cottonoil Co., Abilene, Tex.; Mr. Robeson; George R. Merriman, Southern Kraft Div., International Paper Co., Mobile, Ala., and W. B. Billingsley, Sylvania Div., American Viscose Corp., Fredericksburg, Va.

observe the actions and attitudes of employees, particularly the newer ones; note the condition of buildings; and investigate accidents after they occur and suggest remedial action. Both management and non-management employees are included, and to insure a wide interest the members of the committee are frequently changed.

#### A Look Ahead

The present approach to accident prevention is a practical one. Accident prevention is part of the regular job. It is balanced with efforts to maintain service and control costs. It is kept as simple as possible.

There can be no let-up if our present performance is to be maintained and improved. We must constantly look for ways and means that will best produce results. We must detect weak spots, particularly accident-prone groups of people, districts, or divisions—and apply remedial measures as required.

#### Noise

—From page 39

To obtain information on the distribution of sound pressure as a function of frequency, measurements are made with a sound level analyzer. Depending on the use to which data will be put, the engineer may select one of six types of analyzers.

#### Levels of Injurious Noise

The limits for injurious noise are still vague and uncertain and the entire noise problem requires additional research and evaluation. The answers to such questions as "How much is too much?" and "How often is too often?" are not yet available.

Some authorities agree that damage to hearing is likely to occur at noise levels above 90 decibels. We have to start at some level and the 90 decibel level has been selected—at least as a level at which one should become concerned about noise. At a recent conference on noise in industry attended by many competent investigators in this field, it was the unanimous agreement that we are

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not yet ready for standards in noise.

Other factors which must be considered besides the actual intensity of the noise are the total length of exposure, the length of exposure per period, whether the sound stimuli are continuous or interrupted, the length of interruptions, type and space of environment with reference to reverberation, age of worker, and presence of previous trouble.

### Detection of Noise Hazard

It is recommended that the various plant operations be tested with an approved sound meter, and that a record of the noise level be compiled by departments. This statement refers to the noise level which is more or less continuously present, and not the occasional high intensity noise which may occur from time to time.

In the absence of a sound level meter, an approximate idea of the noise intensity may be obtained as follows: Walk through the plant with another person having normal hearing and try to carry on a conversation. If shouting is necessary, the sound level is usually higher than 90 decibels.

### Control of Noise Hazard

The solution of the noise problem falls into two classes: (a) Medical control, and (b) Engineering control. A brief discussion of these methods follows:

#### A. Medical Control—

The audiometer is the most standardized method of testing hearing loss. This is an instrument which produces tones of the purity and intensity required. One pure tone at a time is presented by headphone to the person under the test. The weakest intensity which he can hear is then found. The difference in decibels between that intensity at which a person with normal hearing can just hear that

tone is the measure of hearing loss of the person. Another frequency is then selected and the test repeated.

A standard technique must be followed. A graph known as an audiogram is then plotted. Hearing loss in decibels is plotted on the vertical ordinate against the log frequency on the horizontal ordinate. This gives a quick, accurate picture of the person's hearing acuity in the audible range.

Audiometer tests may be made by trained non-medical personnel. The hearing program, however, should be supervised by a physician.

Routine audiometer tests at regular intervals are advisable in addition to the pre-employment tests.

As a further guide you may want to consult the Manual of Operation for an Industrial Hearing Conversation Program issued by The Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology obtained from the Academy at 1136 West Sixth Street, Los Angeles, Calif.

#### B. Engineering Control—

Methods for reducing the noise level may be classified as follows:

##### 1. Control of Noise at Source—

The most fundamental attack on noise hazards is removal at the source. With good engineering design much noise can be eliminated, as is evidenced by comparison for noise of a new streetcar or subway car with the older ones. Also, most home appliances have been greatly quieted in recent years by proper design.

Much unnecessary noise results from worn and improperly maintained machines. It is important, therefore, that machines be kept in good operating condition.

An illustration of the use of this principle in the solution of an existing noise problem took place in New York State. A rotary valve in food processing equipment produced a loud screeching noise due to rubbing on the valve housing. When this noise condition was called to the attention of the plant manager, the valve was ground down to a precision fit which resulted in the entire elimination of the noise from this source.

TABLE II

Range of Common Industrial Noise Levels Source of Noise	Range in Decibels
Spinners, looms, lathes	80-95
Screw machines, punch presses, riveters, cut-off saws	90-95
Planers, routers, sheet metal, speed hammers	110-115
Drop hammers, chipping hammers	110-125

2. *Substitution.* Another method of noise control is to substitute a less noisy operation, if possible. Spot, arc or flame welding may be substituted for riveting in specific operations. While this method may be applicable only in certain instances, nevertheless, it should be considered.

3. *Isolation.* Frequently noise can be isolated so that its disturbing effect will be encountered by fewer people. A noisy machine may be removed from a room containing many people and placed elsewhere so as to expose only the personnel necessary for the job. Well insulated partitions, and tightly closing doors should always be provided between a noisy room and adjoining areas.

4. *Resilient Mountings.* If heavy machines are firmly bolted to concrete or wood floors, it frequently transforms the floors into huge sounding boards that not only amplify the original noise volume but help to spread the noise throughout the entire building. Rubber or other resilient mountings will in most instances reduce both the vibration and noise. The use of resilient floor coverings is advisable to further reduce the noise level.

5. *Sound-Absorptive Materials.* Sound-absorptive materials are extremely useful for controlling noise in buildings. Hard surfaces, such as plaster and brick walls, reflect sound and cause reverberation. Sounds coming from all directions, as well as those coming from long distances, apparently undiminished are very annoying. The solution is the absorption of high frequency sounds by the application of acoustical materials. This consists of applying sound absorbents to ceilings and walls in the form of prefabricated acoustical tiles, acoustical plasters, sprayed-on compositions, and blankets which have been fabricated from very porous material such as glass wool. The problem of sound control by acoustical treatment is highly technical and help should be sought from experts in that field.

6. *Reduction of Noise at the Ear by Protective Devices.* There are situations where even after thorough sound control the noise level may still be too high due to

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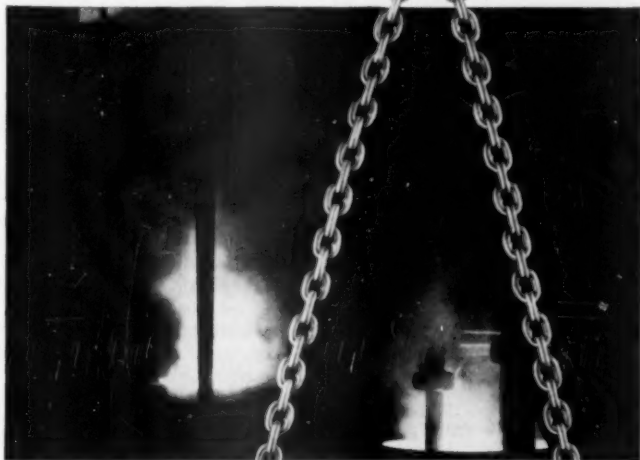
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the nature of the industrial operation, as in the testing of jet engines. It is necessary in such instances that the operators be protected with properly designed and fitted ear defenders which will reduce the intensity of the sound reaching the hearing mechanism. This is as necessary for the protection of ears as is the use of safety goggles for the protection of the eyes.

Four types of ear defenders are now commercially available:

a. Substance molded by the user. This type of ear plug consists of pliable balls of wax and cotton, and are molded by the user to fit his ears.

b. Molded Rubber Plugs. This type of ear defender consists of molded rubber plugs, of several designs, which are inserted into the ear canal.

c. Muff Types. There are two designs of the muff-type ear defender. The one consists of a spring head-band to which is attached a pair of muffs constructed of plastic and sponge rubber, which fit over the ears. The other type consists of a spring head-band to which are attached a pair of soft pliable plugs which fit inside the ear canals. The plugs are lubricated before inserted in the ears.

d. Ear Valves. This type of protector is an ear filter made of non-corrosive metal and soft rubber. The manufacturer states when placed in the ear canal the valve admits conversational tones but automatically closes and protects the inner ear from pressure caused by sudden loud noises or the concussion of explosions.

The amount of sound protection offered by good ear defenders varies somewhat with design, and may be considered to be in the approximate range of 25 to 30 decibels. Under conditions of extreme noise a combination of both the ear plug and muff may be worn, which gives superior protection to either device when used alone.

### Summary

1. The noise hazard is recognized.
2. Engineering phases of this problem are fairly well understood.
3. Physiological aspects are not fully understood but researches are now in progress to bring about a much better understanding.

## Pulp and Paper

—From page 29

business records, governmental publications, etc.

Over 10,000,000 tons of paper and board were used in packaging alone. In 1899, every American used 58 pounds of paper products per year; in 1949 every American used 331 pounds of paper. Uses and markets for paper are ever increasing and the future of the industry is assured from the standpoint of both usefulness and modern necessity.

*Companies, Plants, Processes.* Size of companies ranges from less than one hundred employees in the smaller converting plants with a few thousand dollars invested to the multi-million dollar corporations with thousands of employees in multi-plant operations in both the U.S.A. and Canada. Plant size also ranges from large to small.

During recent years many plants have been modernized and huge new plants have been constructed in the South and in Canada. Flow of materials has been streamlined and entirely new process equipment has been installed. Safety and efficiency is now engineered into paper plants prior to ground breaking ceremony. Paper-mill machinery and converting equipment is carefully scrutinized prior to purchase or installation or operation in order that both workers and productive capacity are not jeopardized.

*People and Safety.* Owners, presidents, mill superintendents, foremen, safety directors, industrial nurses, personnel department heads and employees are cooperating as never before to eliminate industrial hazards in the industry.

Pulp and paper industry operations include logging, pulp and paper manufacture, and converting or special products manufacture. A very large number of hazards are involved in the above operations, and concern normal daily activities or new construction. Since the industry operates power plants, bleaching plants, calender rooms, storage facilities for logs and paper or carton stock, converting processes, etc., a large number of potential hazards are

involved. Safety engineers are ever on the alert for electrical, materials handling, chemical, and many other kinds of hazards. Once spotted, the hazards must be eliminated if humanly possible.

If the hazard cannot be eliminated, employee safety training and safety meetings are necessary. Accident prevention in the paper industry is largely an educational process. Employees and entire plants must be trained in machine guarding, good housekeeping, on- and off-the-job safety, accident reporting, regular inspections, fire fighting, first aid, etc. It is through the regular use of safety aids such as pamphlets, books, booklets, films, posters, slide films, etc., that the safety directors are continuing to effect a continual reduction in accidents in the pulp and paper industry.

The industry is becoming a more safe workshop. In 1923, National Safety Council showed an accident frequency rate for the Pulp and Paper Section of 43.50 (lost time accidents per million man hours worked). The 1950 frequency rate was 11.8. The corresponding accident severity rates are 2.73 (1923) and 1.05 (1950).

A new all-time low accident frequency rate of 9.83 was established for the year of 1951. This new safety record was set by 428 participants in the NSC annual Safety Contest and pertains to 475,136,000 man-hours of labor in all types of mills and plants.

One main purpose of this article is to stress the fact that plants built, employees hired, annual capacity, speed of machines, output per worker, hazards encountered, machines installed, worth of product have all increased markedly in the past 30 years while accident frequency and severity have decreased just as markedly.

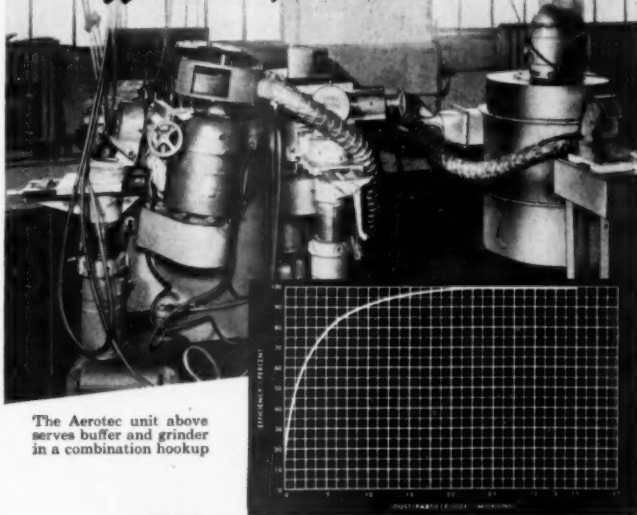
To stop accidents in hazardous logging operations or around machines turning out paper at speeds in excess of 1000 feet per minute, is no easy task. Paper production is a mass tonnage business; with higher speeds come problems in safe materials handling of logs, pulp, board, paper and chemicals. These challenges are being met by capable production people and safety experts, otherwise the acci-



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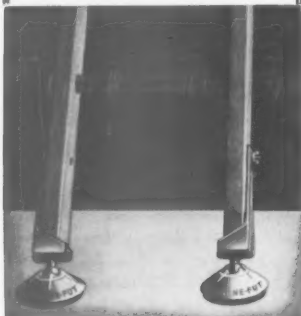
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dent rate would not show a continual downward trend in the industry.

*Safety Directors in the Industry.* The Executive Committee of the Pulp and Paper Section, Industrial Department, National Safety Council, is composed of 61 of the leading safety directors of major paper companies in both the U. S. A. and Canada. The current chairman is H. B. Goodrich, Strathmore Paper Company, West Springfield, Mass. He, those that have preceded him, and his fellow committee members have given their free and personal time in that their fellow paperworkers could be spared of terrifying accidents that so provoked the industry in its earlier days. The committee meets twice annually and works on the problem throughout the year.

Many publications, safety aids, posters, films, film strips, and other safety ideas have emanated from this group and been effected in the industry. Today there are over 300 key companies and 800 plants affiliated with the National Safety Council. The bulk of these companies have full-time safety directors who also cooperate with the Executive Committee and the Council in accident prevention work. It can be stated with little chance for contradiction that pulp and paper safety administrators are near the top when it comes to energy, serious-mindedness, foresight, and constructive action against industrial accidents in their respective field. Four hundred and twenty-eight plants are enrolled in the Annual NSC Pulp and Paper Safety Contest and the competition is keen between plants and manufacturing divisions for improved or perfect safety records.

The all-time safety record for the Pulp and Paper Industry was established by Hollingsworth & Whitney Company, Waterville, Maine — 3,343,598 injury-free man-hours (Book and Specialties Mills).

*Present and Future.* Although the pulp and paper industry does not have the best accident prevention status of all American industries, it is progressing to that end. Canadian mills are affiliated with the Council and are especially alert to the problem. For the year of

1951, 42 Canadian paper mills had an accident frequency rate of less than 10.0. Increasing interest in paper mill safety is being shown by leading Japanese paper concerns. The French Federation of Syndicates of Producers of Paper, Cartons, and Celluloses has recently asked the Council for advice on organized safety programs for all of France. Papermakers Unions are becoming increasingly interested in paper mill safety ideas to alleviate the accident prevention problem.

The United States Government via the Bureau of Labor Statistics is conducting accident prevention studies in paper box and container manufacturing. Large business associations affiliated with the industry are conducting and initiating safety programs for their member firms. For example, the Folding Paper Box Association initiated a safety program for its two hundred members; there are double this number of plants, or firms in the folding paper box industry. One large Canadian association reports that their efforts have reduced accidents so markedly that over \$65,000,000 in insurance rates have been saved their member companies.

Safety directors from member companies are reporting that the newer machines are not eating up men like a load of pulpwood but that perfect safety records are being spoiled by the multiplicity of simple accidents like axe cuts, falling limbs, sprains, falls, lifting, etc. A clearly written history of the safety movement in the Pulp and Paper Industry coupled with thorough statistical studies will perhaps help improve our record somewhat.

To attain perfect records for all mills will never come by governmental edict. Some believe it will come when we begin to teach safety in our primary, secondary, and industrial orientation schools. The safety director who must train both old and new recruits might be likened to a football coach who must produce winning teams—or else. In many companies, safety directors are loaded with too many duties other than accident prevention. In the larger plants, most safety directors apparently need

additional assistance for proper safety inspection, records, training classes, and program planning. Some firms with an all-out attitude of accident prevention are expanding their staffs in an attempt to do a perfect industrial job. This is a good business approach since accidents cost money.

In the industry today, safety directors in the South, Fox River Valley (Wisconsin), Ontario, Quebec, etc., have banded together to improve their regional safety standings. Meetings are held both monthly and annually, and plant visits are often scheduled in order to compare experiences and advice. These meetings are attended by very high caliber safety experts of the industry. They no doubt could stand and would welcome just a bit more recognition from top-management for their efforts over the years.

The furtherance of safety in multi-plant operations is almost a subject in itself. Some companies operate many plants. Here, safety is administered by a safety coordinator from the home office. He plans the broad program and depends on individual plant safety directors to carry the ball. Numerous safety coordinators are doing outstanding work.

It is interesting to note that the over-all growth of the Council as well as the sales of Council safety publications is quite similar to the growth of both all industry and the Pulp and Paper Industry specifically. As an industry expands, there is a corresponding need for safety training aids, if a perfect accident prevention record is to be attained. The monthly Pulp and Paper Safety Newsletter is currently going to 1560 safety and personnel directors.

Dr. Louis T. Stevenson, economist, American Pulp and Paper Association, New York, recently informed the author in his letter of January 9, 1952 that "the expected production increase of the paper industry for the next decade is between 60 and 70 per cent of the present productions, based on past experience." This is interesting in that new plants, remodeled plants, and expanded plants will be constructed and put into operation.

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**Canada.** No story on the Pulp and Paper Industry would be complete without mention of Canadian operations. A recent brochure (December 1951) by the Canadian Pulp and Paper Association indicates that Canada produced 5,278,585 tons of newsprint (1950) while the U.S.A. produced only 1 million tons.

The forest area in Canada comprises 1.3 million square miles. Pulpwood production was valued at \$285,762,620 (1950). Canada produced over 9 million tons of paper, pulp, paperboard, and paper products in 1950. One half billion dollars worth of newsprint was exported from Canada in 1950. The gross production of the pulp and paper industry is \$954,137,651. There is a total of 123 miscellaneous paper mills in Canada.

Over the past 3 years, almost  $\frac{1}{2}$  billion dollars has been invested in Canadian mills. Pulp and paper ranks as the No. 1 industry in Canada in terms of value of goods produced. Pulp and paper industry employs about 277,000 workers of which 224,000 are engaged in woods operations.

**Industrial Nurses and First-Aid Facilities.** In some of the smaller companies, the safety programs are administered by industrial nurses in cooperation with safety committees from the production department. Here, the size of the company does not allow the employment of a full-time safety director. In plants visited by the author, the industrial nurses are doing a splendid over-all job of first-aid and safety promotion.

The first-aid facilities of the industry are markedly improved over the olden days when a bottle of iodine was "the first-aid room." Today, most companies have beau-

tifully white-tiled first-aid rooms with modern equipment. Management is to be highly complimented for this needed facility. Hundreds of minor cuts and the like are being masterfully handled by our industrial nurses of the Pulp and Paper Industry.

**Special Activities.** All paper concerns entered in the National Safety Council Pulp and Paper Safety Contest submit monthly accident reports. Annual safety awards are made to the safety leaders in the various categories of the industry.

A "Best Safety Device" Contest was recently concluded. A wide variety of new safety ideas was presented for the benefit of all concerns in the industry.

Then, too, there is the Fritz Memorial Safety Award which goes to the most outstanding company in the industry. This award was presented by Mr. A. Scott Dowd, president of Fritz Publications, Inc., at the recent National Safety Congress to the West Virginia Pulp and Paper Company.

**Employment and Earnings.** Dr. L. T. Stevenson, APPA, states that the primary paper industry alone produced over \$6,000,000,000 worth of paper products in 1951. Employment exclusive of woods workers and salaried personnel was about 209,000 workers. The annual payroll approximates \$765,000,000. The American paper industry is located in small communities in 37 of the 48 states.

If the printing industry is combined with the paper industry, the annual payroll amounts to about \$3,400,000,000 for 1,000,000 people.

**Goals for the Industry.** The objective of the Council and the paper industry is to attain the lowest accident rates possible for each and every plant. Another goal is to interest management and employees in every paper plant and woods operation in initiating and maintaining effective safety programs. Over 50 per cent of all folding paper box as well as corrugated paper box plants, for example, are not affiliated with the National Safety Council. The cooperative efforts of trade publications and associations are being enlisted to further

the safety movement in the industry. Monthly news letters, special trade magazine articles, and news releases are being given to leading trade publications. Our job is to prevent fires, disasters, accidents, injuries and deaths in the industry. We are making headway but much remains to be done.

## 6,000,000 Safe Man-Hours

—From page 25

safely. Each new employee, as soon as he is introduced to his foreman, is taken in hand by the foreman and shown how to do his job and do it safely. The employee is given a copy of the safety rules pertaining to that department. He is made to feel a part of the organization and his department—each department is a team and a team which produces steel safely.

Here at the South Chicago plant of Republic everyone assumes his own responsibility for accident prevention. Wherever I saw an individual operating a separate machine that necessitated stopping and starting for set-up purposes—for feeding stock, repairs or maintenance, etc., I noticed that each machine was equipped with an individual locking device at the controls.

Each operator had his own lock and key. Whenever he shut the machine down he took the responsibility for locking it. He himself could not start the machine while he was working on it, if he should forget. Neither could anyone else start it, nor could some mechanical device bump the starting control inadvertently.

Jim Tysse had been telling me about this setup in their program, and I asked him to demonstrate it to me. He said if I wanted to put him on the spot, he'd see; and he hoped that man I picked out would have his lock and key handy. We stopped at one of the nail machines and asked the operator to show us how he set the machine up. Sure enough, he threw the stopping lever, produced his lock and locked it. Two of us, at least, were relieved. We checked this in several instances, and it worked in every one.

One more little wrinkle that they have developed in this plant dem-

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onstrates how the individual employee can be indoctrinated with the accident prevention program idea so strongly that he takes the responsibility for it at all times.

We came across one other piece of equipment which was very interesting—the controls on the scrap balling machine. Although the plant has never had a serious accident on this machine, there have been terrible accidents on this operation in the steel industry. Men get tangled in the scrap going into the baller and are pulled in.

This machine has an automatic safety stop in front of the machine designed to prevent that sort of thing. In spite of this, however, accidents do happen. This is essentially a two-man operation, with one man at the controls and the other man feeding the scrap into the machine. The control is the constant pressure push button, or "dead man" type. The machine is put into operation by pressure on the starter button and stopped when pressure is released.

However, there were occasions when operators would block this control. That is, they would hold the starter button down with a bar or some other object when they could not immediately find someone to hold it for them. They would thereby lose all control of the machine in an emergency.

To eliminate this human failure, a foreman in this department designed a control box containing the "dead man" switch suspended from overhead on an electric cable at a point about 20 feet from the machine. This made it impossible to block the control because it hung free and was not fixed or stationary.

I could not help but think that these men were good safety engineers as well as good foremen. It seems to me that this is a good example of the positive approach in accident prevention.

At Republic's South Chicago plant they publicize on the bulletin boards ideas on safety that they have developed, and also unsafe practices which have been spotted and which might embarrass the guilty parties. But the practice doesn't seem to bother the fellows in this plant a bit. On the contrary, it attracts a lot of attention.

Whenever any foreman notices in any department a failure to keep safety appliances in good condition, a failure to use safety protective equipment, or a failure to observe the safety rules, and whenever there is an unsafe practice committed, steps are immediately taken to correct the practice or condition and it is reported on an *Unsafe Practices Report Form*. The form is used to advise the superintendent of the action taken and if not able to correct immediately provide a means for follow-up.

A copy of each report is also forwarded to the safety department, where these reports are also checked by the safety department. As soon as the condition or practice cited in the report has been corrected, the superintendent of the department involved will answer the report advising disposition and return it to the person originating the report, with a copy to the safety department. It should be stated that the district manager, C. P. Cutler, also receives a copy of all reports originated and completed.

Departments affected by these unsafe practice reports post the reports on departmental safety bulletin boards for the purpose of alerting their employees. Naturally, no department or employee in a department cares to be publicized in a report. There is, however, no resentment. This would indicate the program is well sold and they feel these reports are for their benefit.

Every accident in this plant, whether or not anyone is injured, must be reported to the safety department and to the superintendent in charge and be properly investigated. A copy of this report is also forwarded to the district manager.

The district manager holds a weekly operating meeting with all superintendents. At this meeting, the first order of business is safety. The facts in any accidents or accident hazards occurring the week prior to the meeting are discussed, together with other matters pertinent to safety generally.

Once each month the district manager holds a general safety meeting with all superintendents

and assistant superintendent. This meeting is devoted to items of policy, with discussions regarding approach to problems of safety.

The superintendents of the various departments attending these meetings held by the district manager carry this information to the foremen in regularly scheduled departmental meetings. The superintendents set up additional policies on matters that affect only their departments. The foremen in turn get the information to the men under their supervision by means of group safety meetings which are held on company time. The superintendents recognize that the foremen are the responsible men on the firing line in the accident prevention program. They are kept up to date as to what is going on in the accident prevention program all over the plant and are instructed specifically on what they should do in their own departments.

I was interested in the fact that none of these foremen are professional safety men. They are operating men, yet they could very easily become safety men in smaller plants because of the knowledge that they have acquired about accident prevention on their own jobs.

Each month the safety department provides the foremen with a theme which is worked up through the cooperation of all Republic safety supervisors and is used throughout the company organization. This is in the form of a two- or three-page pamphlet, attractive and eye catching, yet giving a complete safety story for the theme. For instance, it may be on good housekeeping, wearing goggles, home safety, transportation accident prevention, lifting, or some specific job hazard.

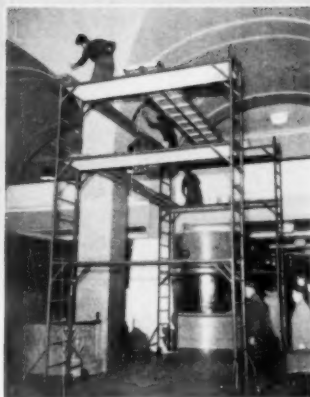
The foreman covers his entire force at safety meetings held once each week. These meetings take from 15 minutes to half an hour, depending upon the length of the agenda.

Foremen in the day-to-day performance of their duties hold personal or stand-around safety meetings, taking advantage of practices and conditions which arise on the job. It may be that the foreman notices one man performing a job unsafely. He will

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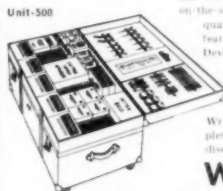


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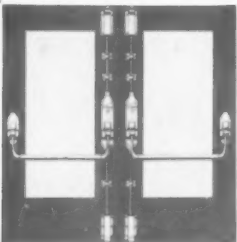
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have a short chat with this man so that he won't repeat the act, explaining what the man is doing wrong and showing him how to do it right. In other cases he may see a group of men doing a job that can be done in a safer and more efficient manner. He may have a short talk with them, get their ideas. This gives them that personal feeling of teamwork.

The foreman prepares a short report covering safety meetings, sending a copy to the superintendent and safety department. This report does not go into detail, but simply itemizes the subjects discussed by the foreman with his men. The entire safety program is designed to get the story of safety to the individual.

In other words, the foreman has assumed the responsibility for his part in the accident prevention program. He is proud of the plant's achievements in safety. Anyone who knows South Chicago plant will agree with me that they have something to be proud of. Over six million safe man-hours is a man's job.

## Safer Floors

—From page 37

platforms, catwalks, stair treads, fire escapes and over floor openings. They are practically self-cleaning and types now on the market offer a secure footing.

Spillage of oil and other liquids can make even normally safe floors dangerously slippery. Where oil and grease drip regularly pans often help to keep them off the floor. Oil absorbent compounds should be kept on hand and sprinkled on the floor for accidental spilling. Most of these commercial compounds are non-flammable and more effective than sawdust and other substitutes.

Keeping floors clean requires strict supervision of the maintenance forces and providing them with the necessary equipment and supplies. In addition to brooms and brushes of good quality, the plant may be large enough to justify the use of floor machines. These are available in many types and sizes for scrubbing, steel wooling, scarifying and picking up heavy deposits of grease and dirt. The

vacuum cleaner with brush attachments for floors and walls is also a labor saver and an aid to cleanliness.

Wax is frequently used to protect the floor surface as well as to improve its appearance. Floor waxes are of two general types: paste and liquid waxes containing volatile organic solvents, and water emulsion waxes. The latter type may be used safely on all types of floors, but waxes containing organic solvents should not be used on asphalt or rubber.

The protective film formed by wax is often slippery. In general, water emulsion waxes are less slippery than those containing solvents and require buffing. However, in both types of waxes there is considerable difference in the friction provided by the surface. Most of the products now on the market have been tested by independent laboratories and the manufacturers are glad to furnish data on slip resistance.

## Boy in the Rain

—From page 33

concerned? I let their husband, son, father get killed, they'll say. I didn't follow up. They must blame me."

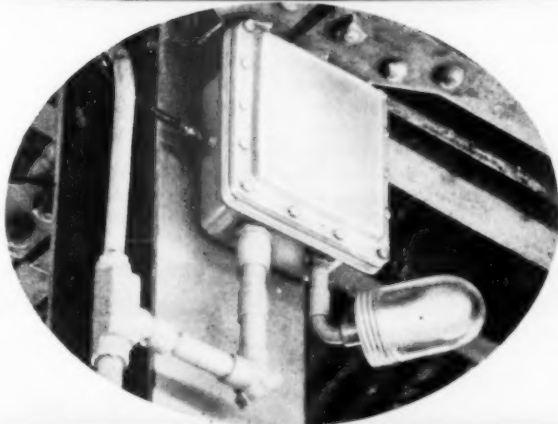
I cut him short. "I told you to face it, not duck it. You don't give a solitary whoop for those women back there, and they don't know you're on earth, and this part you're playing is phony as hell."

Harry got some color then, bridled, snapped, "What do you mean I don't care about them. I've helped smash their lives, and then to stand and hear them crying . . ."

I pulled over to the side of the road, stopped the car, and answered, "You don't care a hoot about the women. You're sorry for yourself. You think you flopped your job, and the results of that flop are unpleasant, but it's yourself you're sorry for, not anybody else. So face it square, you can't do anything for the women, or the dead man, but you can, if you've got guts, do something about the next one."

Harry did cry then, so I knew I was on the right track. "I can't

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face another one," he wailed. "I can't take it. I'll resign."

Then I took over, slugging as hard as I dared. "Do you know just what will happen to you if you resign? Do you know what it will be like to live with yourself for what's left of your life remembering yourself as the safety man whose career was climaxed by failure — and a failure totally wasted because you didn't learn from it, but ran cringing, hiding under beds to get away from

what's in your mind and gets under the bed with you."

"Secondly, you're an arrogant, immature, opinionated ass. You're going to sit here, wrought up by weeping women, sick in your heart, and try to file an accident investigation report on yourself that's a better report than I have already filed in my head.

"Do you think I don't know that you booted one—you, with some help from some other people? And that a guy is dead because

of it. And that the women cried just now. Listen, I know all those things. I know them better than you because I have 13 years more safety experience than you, because I'm a smarter guy than you, because I'm not wrought up—and (and this is the most important of all) because I've booted more and bigger ones than you ever dreamed of. I saw 'em bury five of my boots once—five on one afternoon—and I knew that I had booted that one badly.

"I didn't run, and I didn't cover it up. I've been trying for ten years to buy those five lives back—and I think maybe I've made a fair start toward it.

"But you're going to pass judgment. You're going to quit, and tell me that I'm crazy for not firing you, that I'm ignorant or weak, criminally negligent for not firing you."

Then I softened my voice, and went on. "It won't ever be quite this tough again. Because, if we have any luck, between now and the next one, we'll pay for this one by preventing two. You and me, we'll do that. And next time it will still hurt, and the twentieth time, if there is a twentieth, will hurt, but you'll know there's a way to buy back your boots and so it won't hurt so deeply, so damned, damned deeply."

And then I started the car and when we had driven long enough so that his eyes weren't quite so red, we went home and Sue cooked us a dinner, and a neighbor gal came in and the four of us played bridge.

The boy'll be all right.

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## Personals

### Kemp Named to Safety Training Post

ALFRED C. KEMP has been appointed manager of safety and training for Pressed Steel Car Company, with offices at 6 North Michigan Ave., Chicago.

Mr. Kemp's eleven years' experience in the industrial safety engineering field has included positions as assistant safety director, Pittsburgh Plate Glass Company,

Crystal City, Mo., assistant chief safety engineer, United States Cartridge Company, St. Louis, and engineering supervisor, American Associated Insurance Companies, St. Louis.

A native of Crystal City, Mo., Mr. Kemp attended local schools and graduated from City College of Law and Finance, St. Louis. He also attended Illinois Institute of Technology, Chicago.

He is past chairman of the Industrial Division of the St. Louis Safety Council, a member of The President's Conference on Industrial Safety, and the American Society of Safety Engineers, serving for six years on the St. Louis chapter's executive committee.

### Armstrong Heads Silver Bay Conference

T. O. ARMSTRONG, director of plant labor relations services for the Westinghouse Electric Corp. in Pittsburgh, has been named national chairman of the 34th Annual Silver Bay Conference on Human Relations in Industry.

The Silver Bay Conference, held each July at Silver Bay, New York, attracts more than eight hundred industrial relations and management representatives and delegates of the Industrial Management Clubs from coast to coast. It is sponsored as a national project of the Young Men's Christian Association.

Mr. Armstrong succeeds Wilbur M. McFeeley of the Riegel Paper Corp. as chairman of the conference committee. He has been with Westinghouse since 1927, and prior to 1917, was affiliated with the East Springfield, Mass., plant. At that time, he was named director of plant labor relations services with headquarters in Pittsburgh.

## Obituary

### EMERSON A. BRANDT

EMERSON A. BRANDT, technical editor of *Ice and Refrigeration*, died of a cerebral hemorrhage January 18 in Chicago.

Mr. Brandt was also technical secretary of the National Association of Ice Industries and secre-

# Ladder Safety

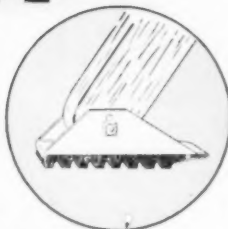
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tary of the National Association of Power Plant Engineers. He had formerly been assistant to vice president in charge of Ice and Refrigerating Engineering of the Middle West Utilities Company. He was a member of the American Society of Refrigerating Engineers and the National Association of Practical Refrigeration Engineers.

Active in the education work of the N.A.P.R.E., Mr. Brandt was the author of several technical

papers and co-author of the book *Practical Ice Making*. He was graduated from the University of Kentucky as a mechanical engineer.

Mr. Brandt is survived by his widow and one child.

#### JAMES A. PURDY

JAMES A. PURDY, vice-president, engineering, Michigan Mutual Liability Company, died suddenly

on January 28. He was stricken with a heart attack on a safety island while crossing Jefferson Avenue in Detroit.

Mr. Purdy was born in Mamaroneck, N. Y., July 30, 1887. He attended Packard College of Mechanical Engineering and Pratt Institute of Science and Technology. Before joining Michigan Mutual in 1921 he was engaged in tool and scientific instrument shop work for several years.

In the National Safety Council he served as a director 1935-36 and held numerous offices in the Wood Products Section, including that of general chairman. He was active in traffic safety work in Detroit and was chairman of the National Association of Automotive Mutual Casualty Companies. He was a member of the Engineering Committee of the National Association of Mutual Casualty Companies.

W. J. SMALE, who has been assistant director of engineering for Michigan Mutual, succeeds Mr. Purdy as vice-president, engineering.

#### HUGH J. GRIFFITH

HUGH J. GRIFFITH, assistant to the manager of the Vesta Coal Company, died February 11 in South Side Hospital, Pittsburgh, Pa. Surviving are his widow, two sons and two grandchildren.

Mr. Griffith was a former president of the Western Pennsylvania Chapter, American Society of Safety Engineers, as well as the National Society. He was a past general chairman of the Metals Section, National Safety Council.

Mr. Griffith was born in Wilkes-Barre, Pa., March 7, 1892. He attended Carnegie Tech and had several years' experience in mining before becoming superintendent of safety and welfare at Pittsburgh Works of Jones & Laughlin Steel Corp. in 1927. In 1934 he was appointed manager of safety and welfare at the corporation's headquarters in Pittsburgh. In 1945 he was transferred to the J & L mining operations.

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## The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

EMMETT ST. PETERS, wireman helper, Union Electric Power Co., East Alton, Ill.—electric shock.

A. U. STEARNS, division manager, Menominee & Marinette Light & Traction Co., Marinette, Wis.—drowning.

JAMES L. PARKER, personnel worker, Jefferson Chemical Co., Inc., Port Neches, Texas—drowning.

MARLON CAMPBELL, lineman, Henderson-Union R.E.C.C., Marion, Ky.—electric shock.

M. E. GOODNER, owner of appliance business, Cleveland, Tenn.—electric shock. Certificate of Assistance to EDWARD R. GIBSON.

HENRY J. HANSEN, lineman, Duquesne Light Company, Rochester, Pa.—drowning.

THEODORE BOONE, journeyman lineman, Kansas City Power & Light Co., Kansas City, Mo.—electric shock.

WENDELL BENTON, journeyman lineman, Kansas City Power & Light Co., Kansas City, Mo.—electric shock.

WILLIAM K. JOHNSTON, lineman, Belfalls Electric Cooperative, Rosebud, Texas—electric shock.

H. J. WEBB, roustabout, The Texas Co., Nocona, Texas—drowning.

GEORGE O. MESSENGER, lineman "A," Public Service Company of Indiana, Inc., New Albany, Ind.—electric shock. Certificate of Assistance to GILBERT A. BOWMAN.

GLENN E. MONTGOMERY, serviceman "B," Public Service Company of Indiana, Inc., New Albany, Ind.—electric shock.

FRANK A. WAGNER, wireman, New York Telephone Co., Mamaroneck, N. Y.—drowning.

MRS. RACHEL BROWN, White Plains, N. Y.—drowning.

—Next page

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Recent nation-wide check shows ALL owners agree: "Your aluminum scaffolds save time and labor on every type of work — indoors and out." Listed by Underwriters' Laboratories, Inc.

You can save! Whatever your needs, these Aluminum Rolling Scaffolds and Aluminum Ladder Scaffolds will help you to do more work faster — with maximum safety — at lower cost.

**Important:** Both quick-adjustment LOKT-RING type extension legs and standard knurled nut adjustment are available.

Less than  
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**For Greater Safety...Efficiency...Economy**

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West Coast Plant: 6931 Stanford Avenue, Los Angeles 1, California



*Prevent die damage! ... with*

**MAGLINER**  
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**SAFETY TONGS**

**LIGHT! RIGID!**

**ROOMY HANDGRIPS!**

**AUTOMATIC CONTROLLED OPENING!**

MANY MODELS TO CHOOSE FROM • Write for descriptive bulletin ST-501

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JB47 — No Accident Awards



JB48 — Safe Driver Awards

JB47 — JB48 . . . Gold plated, pin and safety lock catch, any year date.  
75¢ ea. (plus Fed. Tax)



1933 SERIES — 1 1/4" dia. hard glazed enamel, heavily gold plated pin and safety lock catch, \$19.50 doz. (plus Fed. tax).

Service Award Pins  
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You  
Can't  
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It is  
a  
Life  
Saver

IT LOCKS — IT HOLDS

### SAFETY DEVICE FOR LADDERS

Prevents Injuries by Falling

EASY TO INSTALL

Fastens Quickly to Present Ladder

SIMPLE TO OPERATE

Men Can Climb—No Instruction

**SAFETY SPECIFICATIONS**

High Safety Factor—  
Will Not Rust or Corrode

Write for Folder

**Safety Tower Ladder Co.**

P.O. BOX 1052 BURBANK, CAL.

B. O. SHERMAN, lineman, Wisconsin Power and Light Co., DeForest, Wis.—electric shock.

JOSEPH W. PETERS, fire control aid (patrolman), Plumas National Forest, U.S.F.S., Forbestown, Calif.—drowning.

LEE ROY CALLAHAN, line foreman, Haywood Electric Membership Corp., Waynesville, N. C.—electric shock.

DONALD E. BAILEY, manager, N.W. Bell Telephone Co., Alcester, S.D.—drowning.

WILLIAM R. CHEATHAM, serviceman's helper—3rd year, Public Service Company of Oklahoma, Hartshorne, Okla.—electric shock.

## Green Cross News

—From page 24

the Safety Council. The Police Department, the Chamber of Commerce, the schools and industry were also well represented. The second day's sessions included tours through some of Lansing's large industries where operations were viewed first hand.

### Phoenix Plans Conference

The Maricopa County Chapter, NSC, has experienced marked growth during the past six months, according to A. R. Curlee, president of the Yellow Cab Company of Phoenix, chapter president. He announced several steps that have highlighted the expansion including the establishment of an industrial section composed of safety leaders in Arizona industry, with plans for an annual Arizona Safety Conference in April; a stepped-up membership procurement activity that has successfully brought in more leadership; the organization of a county-wide PTA safety committee; and an accelerated public information campaign. Mr. Curlee's report was given recently at the Council's annual meeting.

### Proceedings Published

The proceedings of the Industrial Group sessions of the 21th Annual Eastern Pennsylvania Safety Conference, held in Bethlehem, Pa., were published and distributed recently as a 66-page mimeographed job by the Lehigh Valley Safety Council, which sponsored the conference.

## Calendar Contest Winners for February

First prize in the National Safety Council's Calendar Contest goes this month to Cpl. Marie B. Giuffrida of the United States Marine Corps. Cpl. Giuffrida is stationed at Camp Joseph Pendleton, Oceanside, Calif. The theme in this contest was safety is everybody's business. Cpl. Giuffrida's line was adjudged best of all those submitted. It was:

*The life YOU may save—YOU may need!!*

Second prize went to Joan Coviello of Easton, Pa. Miss Coviello is employed at Alpha Portland Cement Company. Her winning line was:

*Cool heads, not hot rods is our need.*

Third prize was awarded to Mrs. R. I. Miller of Downers Grove, Ill., for the following line:

*On the road, let's excel, not exceed.*

Thirty \$5 awards were issued to:

Mrs. Hazel Nelson, Medford, Ore.  
Peter L. Satkowiak, Dow Chemical Company, Auburn, Mich.  
Joe Slosarcik, Sorony-Vacuum Oil Company, Inc., Gary, Ind.  
K. P. Hopkins, Tulsa, Okla.  
Janice Gifford, Buffalo, N. Y.  
Mrs. J. W. Atherton, Temple City, Calif.  
R. F. Blough, United States Steel Co., Johnstown, Pa.  
Carole Domann, Abilene, Tex.  
Olive Poulton, The Steel Company of Canada, Ltd., Hamilton, Ont.  
M. L. Bloomingdale, Behr-Manning, Inc., Troy, N. Y.  
Mrs. Byron Trisler, Crothersville, Ind.  
Mrs. A. J. Shirk, Mission, Kan.  
W. C. Blackford, El Cajon, Calif.  
Mrs. Zora Morrison, Dow Chemical Company, Midland, Mich.  
Mrs. Guy Young, Dexter City, Ohio.  
Mrs. George Miller, Ft. Worth, Tex.  
Mrs. H. P. Crater, Portland, Ore.  
Mrs. Ruth R. Summer, Long Beach, N. Y.  
Mrs. W. E. Garst, Roanoke, Va.  
Eunice N. Pierce, Sperry, Okla.  
Jewell R. Swofford, Benton, Ill.  
Mrs. James W. Smith, Detroit, Mich.  
Mrs. Faye Van Court, Los Angeles, Calif.  
Lenore Pyle, Colorado Springs, Colo.  
Warrick E. Lee, Bell Telephone Company, Carbondale, Pa.  
Mrs. Frances Waltis, Bend, Ill.  
Mrs. Erel R. Powers, Huntington, W. Va.  
Marjorie Duree, Eugene, Ore.  
Floyd Snyder, Bethlehem Steel Company, Bethlehem, Pa.  
S. M. Meng, Linde Air Products Company, Bridgeport, Ind.

Most of us know how to say nothing—but few of us know when.



Increased efficiency ...  
Lower manufacturing costs ...  
No accident time-loss ...

...with  
**PITTSBURGH  
COLOR DYNAMICS**

**Modern painting system brings benefits to management and workers alike  
in Automotive Heater Division of Eaton Manufacturing Company**

**E**ATON Manufacturing Company of Cleveland, Ohio, is proving—by actual experience—how Pittsburgh COLOR DYNAMICS benefits management and workers alike as it increases the amount of work per man-hour and the number of man-hours per worker.

● Eaton produces a variety of parts for the automotive industry. Its vast truck and car heater plant is one of the world's largest.

Late last year this entire heater plant was repainted according to COLOR DYNAMICS. Following the principles of the energy in color, focal colors were painted on operating parts of machinery and eye-rest colors on stationary parts to aid workers to see their tasks better and to reduce eye fatigue. Walls and ceiling were finished with morale-building colors to provide additional eye-rest areas.

Safety colors were used to reduce accident hazards.

● "As a result of repainting according to COLOR DYNAMICS", reports W. A. Mattie, superintendent of the Heater Division, "we have noticed improvement in operating efficiency, employee morale and general plant cleanliness.

"When our plant was a dull gray, workers seldom bothered to pick up small parts used in assembly operations. They were usually swept up and discarded. Today, employees are so proud of their clean surroundings they pick up these items, effecting worth-while savings for us.

● "By increasing our efficiency, COLOR DYNAMICS has helped us to cut manufacturing costs. We think the 20 percent reduction in absenteeism is also directly traceable to the new color plan. Nor have we had a single hour of lost time because of injury since we repainted."

**COLOR DYNAMICS Engineering  
Study for your plant FREE!**

For a complete explanation of what Pittsburgh COLOR DYNAMICS is and how it works in industry get our free, profusely illustrated booklet.

Better still, let us show you exactly how to apply it in your plant. We'll be glad to submit a scientific color engineering study FREE and without obligation.

There's a trained color expert at each of our offices located in all principal cities. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have our COLOR DYNAMICS representative see you at your convenience. Or send the coupon below.

**SEND FOR A COPY OF THIS BOOK!**

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☐ Please send me a FREE copy of your booklet "Color Dynamics in Industry."  
☐ Please have your representative call for a Color Dynamics Survey of our properties without obligation on our part.



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safety

occupational  
**SAFETY  
POSTERS**  
1952 directory

**POSTERS**

## For Your Information

**A**BOVE is a reproduction of the 1952 Directory of Occupational Safety Posters—copies of which have been mailed to all National Safety Council industrial members. This new Directory contains miniatures of 744 posters—top-notch selections on a great variety of subjects. Additional copies are available at 50 cents each, by writing the Membership Dept., N.S.C.

Posters miniatures on this page and the two following are NEW—produced for the first time this month. Excepting the Jumbo poster (below, left) all will be in stock throughout 1952. The posters shown in black-and-white on the two following pages are actually printed in two or more colors.

**MAKE THE MOST OF YOUR POSTER SERVICE** by selecting from the brand new posters shown on these pages each month and from the hundreds of illustrations in the 1952 Directory.

**THERE'S A SAFE WAY  
FOR EVERY  
JOB**



*if you don't know-ASK!*

9549-C

25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in black and white on the following pages and in the 1952 Poster Directory.

to be here  
**TOMORROW**  
play it safe  
**TODAY!**



JUMBO POSTER, FOR MAY, 1952

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".



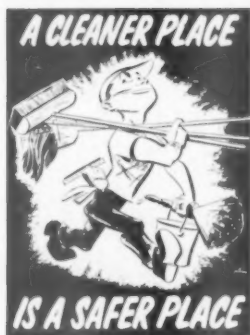
to be here  
play it safe

NATIONAL SAFETY COUNCIL  
9541-A 8 1/2 x 11 1/2

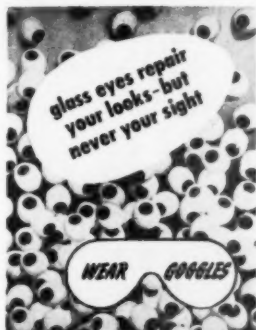
This new four color poster is illustrative of the 72 four color posters shown in the 1952 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors  
(Available only in sizes indicated)



9523-B 17x23



9538-A 8½x11½



9545-A 8½x11½



9539-A 8½x11½



9547-B 17x23



9428-A 8½x11½



9548-A 8½x11½



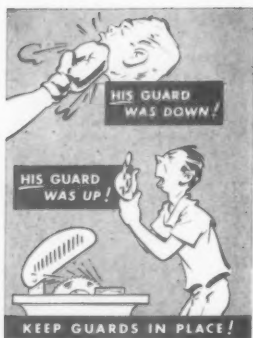
9479-A 8½x11½



9525-A 8½x11½

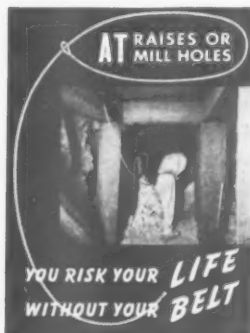
Electrotypes of payroll inserts can be furnished on all poster illustrations shown above.

Posters below are printed in two or more colors  
(Available only in sizes indicated)



9374-A

8½x11½



9522-A

8½x11½



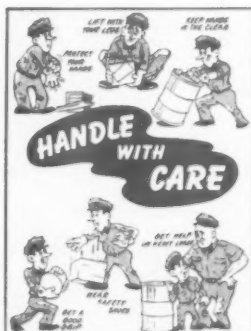
9480-B

17x23



9342-B

17x23



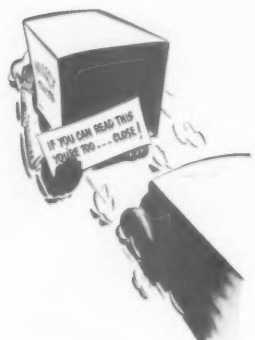
9517-A

8½x11½



T-9508-B

17x23



V-9536-A

8½x11½



V-9535-A

8½x11½



V-9537-B

17x23

Electrotypes of payroll inserts can be furnished on all poster illustrations shown above.



### Employee Booklet on Protective Clothing

*It Pays to Dress Well*, an attractively illustrated, 16-page, two-color booklet on personal protective equipment for workers is now available.

This booklet covers work situations where such protective clothing as hard hats, goggles, gloves, aprons, and the like are needed. Written with a light touch, it will provide a valuable and inexpensive way to remind workers of the jobs on which they need to wear these kinds of protective clothing.

Member price: 1 to 9 copies, 12¢; 10 to 99 copies, 7¢; 100 to 999 copies, 6¢; 1,000 to 4,999 copies, 4¼¢. Special discounts on larger quantities.

### The Importance of Foremen

Two new safety reprints, General No. 26 and General No. 28, discuss the big part foremen play in any safety program.

*A Critical Study of Foremen*, Reprint General 26, by F. A. Hoover, reprinted from the *Industrial Supervisor*, emphasizes the qualities the foreman must have—understanding of himself, his men, and his job. Mr. Hoover points out that foremen can be an important asset to the safety program. If the safety director utilizes their abilities, he will have valuable assistance in devising and carrying out an effective safety program.

*The Foreman's Big Job*, Reprint General No. 28, by G. A. Balzersen, reprinted from the *NATIONAL SAFETY NEWS*, states that the foreman, by reason of his position, has a unique opportunity to influence the plant safety program. To quote from the article, "A company's safety program is as strong as its weakest supervisor." The foreman must consider the safety of his men at the same time,

a responsibility and a privilege.

These articles make good reading for both the safety engineers and the foremen who want to clarify their interpretations of the role of the foreman in the safety program.

Member price: single copies free to Council members. Write for quantity prices.

### Safety Training Institute

The Safety Training Institute, the National Safety Council's program for the training of representatives of member companies in the principles of safety, has scheduled a course for the week of April 21 to 25, 1952.

This is a basic course in the fundamentals of safety and will include sessions on "Building Safety into the Plant," "Machine Guarding," "The Foreman's Part in Accident Prevention," and "Industrial Health — Hazards and Control." Members of the Council staff and safety engineers from industry will conduct the courses.

For information on registration or course agenda write to Betty Litwin, Course Registrar, Safety Training Institute, National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

### Detail Sheets and Data Sheets

Four new technical publications of the Industrial Department are now available.

*Aircraft Ground Fuel Servicing—Fire Hazards*, Data Sheet D-A-4, just published, discusses the fire hazards of airport fueling operations. Particular stress is placed on the elimination of ignition sources.

*High Voltage Testing of Industrial Wires and Cables*, Data Sheet D-EE-3, now in print, discusses the hazards involved in plant and

field testing. A great deal of emphasis is placed on the proper use and guarding of the testing equipment.

In addition to these data sheets, there are two new detail sheets available, No. 130 and No. 131. Detail Sheet No. 130, *Model for Demonstration of Oil Switch*, includes a talk to be given in conjunction with the demonstration of the switch. Detail Sheet No. 131, *Safety Toe Guard for Flat Bed Miehle, Cylinder Printing Presses*, includes a picture of one of the guards in place as well as detailed drawings of them.

Member price: Data Sheets, 1 to 9 copies, 17¢; detail sheets, 1 to 9 copies, 12¢. Write for quantity prices.

### Off-the-Job-Safety

The Home, Farm and School Divisions of the National Safety Council have several publications which would make valuable contributions to any off-the-job safety program.

For the safety engineer who takes part in community safety activities the *Home Safety Program Kit* will be of interest. Designed as an aid in community planning for home safety, it contains sample leaflets, posters, news and radio releases, skits, quiz contest for meeting, list of home safety films, and other suggestions for techniques of disseminating home safety information. A planning guide for the development of a community-wide program tells how to start the program, how to maintain a continuing program, and how to measure results. Although it is not an off-the-job kit, some of the techniques and materials would also be helpful to the industry conducting such a program.

Price for a single packet, \$1.10. Write for quantity prices.

Another publication of the Home Division is a *Home Safety Blueprint for Community Action*, which tells the story of basic planning for a home safety program in a nutshell. The three targets outlined by the Home Safety Conference — the home itself, accident alert families, and

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Wears indefinitely; heavy traffic is on the abrasive which protects enamel.

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Hot'n'Cold Glove,  
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Over 30 Years of Quality Glove Making

## Ankle Action Suction Grip, Always Flat MAKES

### Johnson Crutch Tips the Choice of Thousands

You can buy them in most orthopedic hospitals and drug stores or order direct.

**65¢ a pair, postpaid**  
A DANDY CANE TIP.

Manufactured of high grade flexible rubber on the same principle as our popular ladder shoes which are used in all industries and a common sight on ladders of workmen in every city and town.

Safely yours,



JOHNSON LADDER SHOE CO. EAU CLAIRE, WIS.

the home and the community—are described; and suggested projects and groups which may be interested are listed. A brief discussion of techniques for reaching every home in the community and for maintaining interest in the program is included.

Prices: 1 to 9 copies, free; 10 to 99 copies, 5¢ each; 100 to 999 copies, \$0.035 each; 1,000 or more copies, 3¢ each.

The Farm Division of the National Safety Council recently published a 4-page, illustrated leaflet entitled, *Let's Hunt Safely*. It covers such topics as safe practices in handling guns, the effective range of several popular types of guns, and the kinds of clothes the hunter should wear for safety. Distributed to the workers at safety meetings, as a payroll enclosure, or sent to their homes, this leaflet will serve to remind them that guns can be dangerous toys if they aren't handled properly.

Quantity prices: 1 to 9, 6¢ each; 10 to 99, \$0.29 each; 100 or more, \$0.17 each.

The School Division has two reprints which will be of interest to everyone who is a parent. The first, *Make Each Child a Member of Safety Patrol*, prepared for *Safety Education Magazine*, by Grace I. Crawford, principal of the Sheridan School at Elgin, Illinois, is the story of preparing pupils to assume the responsibilities of citizenship. To quote Miss Crawford, "Safety becomes everybody's responsibility rather than the responsibility of a few when every child is a member of the safety patrol." The program of sharing safety responsibilities is not only organized on a very democratic basis, but should have a far-reaching carry-over into participation in civic activities later.

Price of reprints, 3 cents.

The second reprint, *Unlike "Topsy," Safety Doesn't Just Grow Up*, was written by Victor E. Leonard, principal of Mianus Elementary School at Greenwich, Connecticut. Mianus School has a six-year record of membership in the National School Safety Honor Roll, and Mr. Leonard tells of the various safety activities which play a part in maintaining the school's high standard of safety. Safety leaders, both in school and in industry, will note the basic pro-

RIGHT IN YOUR OWN BACK YARD...

BY WEST



**THE MORAL TO OUR STORY?** Make the job easier for your maintenance personnel... and you *automatically* lower your maintenance costs. Let 'em wax as they clean—with a specially formulated material that performs 3 operations in one!

**LUSTRECLEAN** (pine-scented or plain) cleans... deodorizes... and deposits a light film of wax. Effective on any type of surface! No heavy scrubbing. No rinsing. Mop dry... buff the film lightly if a soft satiny finish is desired! Save time and labor cleaning floors, walls, woodwork—wherever excessive wear and heavy traffic has made daily maintenance a back-breaking job.

**LUSTRECLEAN** really cleans! Its emulsifying action loosens the most persistent dirt, grime... hard-to-remove rubber burns. No need to use harsh soaps or injurious chemicals. Proof? Ask for a sample and test it on the spots and blemishes your present cleaner won't remove!

*Pine LustreClean is only one of many WEST products formulated for the promotion of sanitation. Others include floor sealers and waxes... washroom service... disinfectants... deodorants... insecticides... cleaners... soaps... protective creams. West is the exclusive distributor of Kotex Sanitary Napkins sold through vending machines.*



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Long Island City 1, N. Y.  
(64 BRANCHES IN U.S. AND CANADA)

## SAVE \$ \$ \$... WAX as you WASH

I'd like to try a sample of LustreClean

Pine-Scented ☐ Plain ☐

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

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Dept. 7

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NOW is the time for you to check your supply of Fairway salt tablets.

Why? Because the heat is coming and when the heat hits, it hits hard. It hits your profits! How? Work slow-downs, inferior workmanship, and lost time accidents are often directly caused by heat and heat fatigue.

Fortunately, most of this heat trouble is avoidable if you make Fairway salt tablets available to your workers. Fairway tablets restore the salt balance in bodies drained of salt by perspiration.

For stomachs sensitive to salt, we suggest Fairway Enteric coated tablets. Enteric tablets resist the acid solutions of the stomach and dissolve in the alkaline fluid in the intestinal tract.

100% PURE SALT TABLETS. COMBINATION SALT AND DEXTROSE. ENTERIC COATED SALT TABLETS.

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Write For Bulletin No. 547

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"If It's Made of Canvas, We Make It"

gram of building safety-conscious attitudes. Here are safety ideas with carry-over into home and industry.

Price of reprints, 3 cents each.

### Fork Truck Stability

*How High Stacking Affects Fork Truck Stability*, an article which originally appeared in *Modern Materials Handling*, is now available as Safety Reprint General No. 27.

Harold Milz, Chief Engineer, The Mercury Manufacturing Company, points out in this article that with storage space at a premium today, it is important that materials handling engineers utilize the space available to the best advantage. This generally means that materials will be stacked as high as is possible without danger; and it is therefore important that the physical laws governing fork truck stability be thoroughly understood.

Mr. Milz analyzes the factors involved in fork truck stability and gives the formulas necessary for the calculation of the overturning moment and the required trail weight.

With this information the purchaser of any truck can provide the truck manufacturer with accurate information about his stacking needs, and the manufacturer, in turn, can then provide the proper truck for the job.

Member price: single copies of Safety Reprint General No. 27 are free to Council members. Write for quantity prices.

### Operation Safety

"Make Safe Driving a Habit. Check Your Car, Check Accidents!"

This is more than a dream of an industrial safety engineer looking over the off-the-job safety record of his personnel — it's a slogan that will keynote materials especially prepared for the May Operation Safety program, Vehicle Maintenance.

The May Operation Safety kit is one of twelve issued on a monthly basis throughout the year by the National Safety Council. Each monthly kit covers one important theme of traffic safety and is distributed on a nationwide basis to all types of community safety organizations.

One means of tying in indus-

trial off-the-job safety programs with this national effort during May is through plant or community distribution by industry of the special leaflet prepared for this Operation Safety program.

The leaflet is a vest pocket primer on traffic safety, presenting a dramatic plea for a life saving combination of *safe traffic habits and a safe car*. Three 10-point check lists emphasize driving habits, walking habits, and car maintenance.

Used for general plant distribution or as payroll enclosures, these leaflets bring the car-check-for-safety story into the homes of every company employee. There is imprint space on the front cover for companies who wish to sponsor plant or community distribution. Stickers for payroll envelopes and letterheads and posters are also available on the "Make Safe Driving a Habit" theme. Samples of these materials and prices and information on the complete Operation Safety program may be obtained from the National Safety Council.

## Industrial Health

—From page 48

began to increase in the new department.

## Industrial Health Congress

The Twelfth Annual Congress on Industrial Health of the Council on Industrial Health of The American Medical Association sponsored by the Medical Society of the State of Pennsylvania and the Allegheny County Medical Society.

THE RESPONSIBILITY of management, labor and medicine for the health of the American worker was the theme of the dinner meeting. The speakers were Dr. John W. Cline, president of the American Medical Association; Irving W. Wilson, president of the Aluminum Company of America; and A. J. Hayes, president of the International Association of Machinists.

Dr. Cline stressed the necessity for total medical care of the worker as well as environmental control and health supervision at work if the problems of illnesses and maladjustments are to be solved. This must necessarily in-



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That's a fact! Ansul nozzles were designed for use by inexperienced operators. These patented nozzles provide a flattened cone-shaped discharge of dry chemical. The stream of dry chemical helps to shield the operator from the radiant heat of the fire. At the same time the pattern of the dry chemical stream, its velocity, etc. have been proved to be most effective in fighting

flammable liquid, gas and electrical fires. Besides greater extinguishing effectiveness, Ansul users receive many other benefits... water-tight construction for more dependable fire protection; corrosion resistant construction for long life with low maintenance costs; quick, easy on-the-spot recharge for continuing fire protection; non-conductor and non-toxic for safety of operators, etc.

SEE PAGE 7

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**U.S.B. of M. Approved  
Respirator for Type A  
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Sample sent \$3<sup>25</sup> pp



More than 46 sq. in. infiltration area. Soft rubber face mask.

U.S.B. of M. Approval BM-2124 for LEAD DUSTS and ALL other toxic or poisonous dusts as well as Type A (Pneumoconiosis or Silicosis producing dusts). Controlled breathing... patented check valves and bulb type exhalation valve guard against re-breathing stale air.

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clude the home surroundings of the worker and his family.

To solve the total problem calls for much more complete integration of what occurs in the plant dispensary with the related activities of the community health agencies and generally for much more close cooperation between the physician in industry and the family doctor in general practice.

Mr. Wilson said that the occupational disease is almost a thing of the past and that the general diseases of the population are the major problem for industry now. That is the real reason for pre-placement and periodic medical examinations and is also the reason for one of the major problems of industry, which is how far a company medical program should properly go. The industrial medical program must never become a competitor of the private physician but at the same time the employee's health is a mutual concern of the industrial physician and the personal physician.

Mr. Hayes stressed the necessity for better understanding between the employee and the company doctor. He felt that many employees look upon the industrial doctor as being much more concerned with protecting the company than with protecting the employee's health and well being. He said the solution of the health problem in industry is also the solution of the health program in general and can be found in a health plan which will not necessitate the lower income group mortgaging their future to provide for their present health.

Speaking on the opening program, Dr. Howard A. Rusk, chairman of the Health Resources Advisory Committee, Office of Defense Mobilization, spoke about the necessity of again starting to think about manpower conservation. The bottom of the Bureau of Labor Supply will soon be reached and a far greater influx of the marginal worker, the more severely handicapped, the older worker, and the woman worker must be expected in the near future. The solution of the problem of safely and effectively utilizing these people will fall upon those in industrial medicine and in public health.

Current plans call for an additional two and a half million persons in defense production during 1952 of which the normal growth of the labor force will provide for about one million. The other one and a half million must come from workers not ordinarily utilized.

The Health Resources Advisory Committee has been directed to look into industrial health practices and recommend improvements. They have found that sickness absenteeism alone cost the nation the full time of two million workers every year. They are fairly well convinced that one-third to one-half of this waste is unnecessary and preventable. If it could be accomplished, elimination of this waste would account for half to two-thirds of the additional labor requirements.

As part of an attempt to improve the situation the committee has cooperated with the Department of Labor in some improvements in the health and safety requirements under the Walsh Healy Act. These requirements, however, are minimal and will not do too much because the Walsh Healy Act covers a relatively small proportion of individuals. Also, the Walsh Healy Act is inherently weak in its requirements for safety and health.

An important part of the problem is that medical departments are found only in about 1 per cent of all business establishments in the country and 70 per cent of American workers are employed in the 99 per cent of business establishments employing fewer than 500 workers per plant.

As a start on the health service for the 39,000 firms employing from 50 to 500 persons should be provided by pooling of health resources to provide them for a series of plants from a central dispensary or by similar means. Such pooling will have to be stimulated and possibly subsidized in some cases.

Counseling services for placement and for rehabilitation after illness or injury should be possible by similar arrangements.

The Health Resources Advisory Committee recommends that in-plant medical services include:

1. Proper job placement and disease prevention through preplacement, peri-

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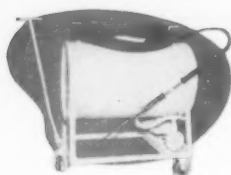
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odic, and post-illness health appraisals, including psychological as well as physical examination;

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3. Health education and health consultation on both occupational and non-occupational illnesses;

4. Adequate records and analysis of the health experience in order to point out future objectives;

5. Coordination of in-plant health services with community health programs;

6. Collaboration with management in the provision of a healthful and safe working environment; and

7. Utilization of advisory services available to the in-plant medical department from non-official organizations as well as governmental groups.

It seems certain that the provision of such services will be as valuable to the operators of small plants as they have been to the operators of large plants. One major obstacle is the lack of understanding of the value and possibility of such services.

The second obstacle is the lack of trained personnel and the lack of personnel in training. Although

there are nine medical schools offering such training they are catering mostly to foreign students and are not able to get U.S. students enough to keep them full.

Hurley L. Motley spoke about the methods which have been worked out in the Cardio Respiratory Laboratory of Jefferson Medical College Hospital for the early detection of persons susceptible to lung impairment and for the treatment of pneumoconiosis cases with positive pressure oxygen breathing in particular.

One full day's program was devoted to the subject "Occupation Housewife" with emphasis on the role which the housewife undoubtedly plays in industrial health and also on the more and more common dual role of housewife and industrial worker which women are playing. Mrs. Adelia B. Kloak of the Department of Labor pointed out that there are more than 19,000,000 women now in the labor force with another 700,000 actively seeking work.

Several speakers emphasized the problems of the housewife employed outside of the home at industrial or commercial work. The great necessity for training and education in the prevention of the 1,000,000 yearly accidents in the home was emphasized by Thomas Fansler, director of the Home Safety Division of the National Safety Council.

### Ethylene Amines

*Clinical Experiences with Exposures to Ethylene Amines* by Carl U. Dernehl. Industrial Medicine and Surgery 20:541-546 (December, 1951).

THIS ARTICLE reports on fourteen cases of dermatitis caused by exposure to ethylene amines in a group of 35 operating personnel in a period of about four years. The turnover in the plant during these four years was fairly high since the operating group was 15 men at any one time.

Five of the individuals affected with dermatitis continued to work in the amines unit. Three of the operators required transfer to other work not involving exposure. Two maintenance men developed dermatitis and also had to be transferred to a different area.

One man reported to the medical department after two months

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employment in the amines unit complaining of headaches of six weeks' duration. He had noted that the headaches started about an hour after his starting work and remained severe until two hours after quitting time when it gradually disappeared. He had had no headaches during days when he did not work nor during three days' work on another unit in the plant. He was transferred to another unit.

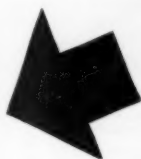
Three other individuals developed typical symptoms of asthma. One man working in the shipping department noticed that he developed a cough when filling drums with acetic anhydride or with ethylene amines. He was provided with a chemical cartridge respirator but attacks of coughing and asthma persisted and he quit after several severe attacks. The asthma cleared completely in one week and one and a half years later there was no recurrence.

Another individual apparently had a pre-existing asthma which responded to amine vapors also. He was transferred to other work in the plant and had no further difficulties.

A laboratory worker started to work with amines in 1947. In the middle of 1948 he began to notice sensitivity to amines with attacks of coughing, wheezing and smothering. These attacks continued intermittently for a year on days when he handled amines. After the laboratory was rebuilt to provide better control of vapors his asthma attacks began to disappear although they are still produced within an hour of a minor exposure to amine vapor.

The ethylene amines apparently are both direct skin irritants and sensitizing materials. Although the sensitizing properties are still not rigorously proven, the fact that several cases of asthma have appeared and have disappeared on removal from exposure and the fact that skin rashes have been produced by exposure only to the vapors is a pretty strong indication of a sensitizing character.

There have been several thermal burns by direct contact with amines and none of these burns have produced a dermatitis. This probably indicates that the derma-



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titis is not produced where the chemical is carefully and thoroughly removed from the skin very shortly after contact. It has also been noticed that the men who have had an attack of dermatitis and have returned to work in the same unit are no longer troubled with the dermatitis. They are men who have a considerable respect for the chemical and remove it from their skin promptly when they have a spill.

### Safety Library

—From page 52

people in other fields — will be familiar with these textbooks. The handbook might better have been a concentration on new researches and included more emphasis on the specific applications of these researches.

The book's value has been considerably dissipated by this lack of selectivity—but if you are willing to wade, there is a vast amount of information between its covers.

Marian Rolan

### Dangerous Materials

*Handbook of Dangerous Materials.* By N. Irving Sax assisted by M. J. O'Herin and W. W. Schultz. Published by the Reinhold Publishing Corporation, 330 West 42nd St., New York 18. 1951. VIII plus 848 pages. \$15.00.

The authors of this text state that it was their object to get a digest of the material on the hazards of a large variety of substances between two covers and in a form which will make it available to all classes of individuals. That they have been at least partially successful in this ambition is shown by the list of 5,000 materials which are arranged alphabetically in the section on general chemicals. Several additional materials are treated in the sections on explosives, fungus diseases and fungicide and radiation and radiation hazards. The fifth section is a complete reprint of the shipping regulations of the Interstate Commerce Commission.

The section on general chemicals shows the troubles which are typical of undue haste in preparation. The bibliography is quite inadequate and is inaccurate in many details of its reference methods. It would be very difficult to

locate several of the 63 references given from the bibliographic material presented. A few cursory tests of the index seemed to indicate that it is also somewhat deficient in that it is lacking in cross-references.

The material in the body of the general chemical section seems to have been chosen with little critical care and with relatively little effort to indicate relative hazards as among the various substances. As examples, the statements under basic phenyl mercuric nitrate and under phenyl mercuric acetate would lead one to assume that the hazard in handling the two was identical. One would be led to believe that both compounds are highly irritating and highly toxic which is certainly true in a very much lower degree of phenyl mercuric nitrate than of phenyl mercuric acetate. On the other hand, the statement that Agerite Alba is "a proprietary material which has been known to cause allergic symptoms in humans" is certainly a gross understatement of the pre-



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cautions to be observed in handling this material.

This is not to lead one to think that the statements in this section are inaccurate, per se. They are simply not well balanced against each other. This section will be valuable as a quick reference to persons relatively familiar with the field and who will use it as an auxiliary to other references. As a sole reference to one unfamiliar with the field it could be quite misleading.

The sections on explosives is largely quoted from Bureau of Mines material and U. S. Army material and seems to be both accurate and quite complete. The remaining two sections on fungus diseases and fungicides and on penetrating radiation and radiation hazards seem to be more balanced presentations than the first section and should be very good and very reliable ready reference material.

F. A. Van Atta

#### Aeronautics

*CAA Statistical Handbook of Civil Aviation 1950.* Published by Civil Aeronautics Administration, 1952. 115 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 50¢.

#### Fire Protection

*Fire Tests of Bulb-Type Carbon-Tetrachloride Fire Extinguishers.* Published by National Bureau of Standards, 1951. 8 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 10¢. (NBS—Miscellaneous Publications 197)

#### Lighting

*Lighting and the Nation's Welfare.* Published by The National Information Committee on Lighting, 1410 Terminal Tower, Cleveland, O. 1952. 24 p. Free.

#### Mines

*Modern Automatic Electrically Controlled Elevators for Transporting Men at Two Coal Mines in Western Pennsylvania.* Published by U. S. Bureau of Mines, 1951. 5 p. Available from the Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. (Free Information Circular 7628)

#### Radiation

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tories. Published by National Bureau of Standards. 1951. 24 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 15c. (NBS—Handbook 48)

*Radiation and Monitoring Fundamentals for Fire Service.* Published by International Association of Fire Chiefs, 22 East 38th St., New York 16, N. Y. 1952. 48 p. Free.

*X-Ray Calibration of Radiation Survey Meters, Pocket Chambers, and Dosimeters.* Published by National Bureau of Standards. 1951. 11 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 15c. (NBS Circular 507)

## MAGAZINE ARTICLES

### Electrical Industry

*Accident Prevention Pays Off.* By H. C. Thuerk. (In Edison Electric Institute Bulletin Jan. 1952. p. 5)

### Eyes

*Vision Tests for Your Small Plants? Why Not?* By E. L. Steinberg. (In Factory Management and Maintenance, Feb. 1952. p. 110)

### Fire Protection

*Industrial Fire Fighting.* By W. E. Rossnagel. (In Fire Engineering, Feb. 1952. p. 105)

*Protective Close Vessels Against Explosions.* By E. W. Cousins and P. E. Cotton. (In National Fire Protection Quarterly—Jan. 1952. p. 225)

### Health

*Some New Toxic Words: Some New Manifestations of Toxicity.* By J. Danten-Gallego and others. (In Industrial Medicine and Surgery, Feb. 1952. p. 41)

### Scaffolds

*Good Scaffolds Cut Job Costs.* (In Practical Builder, Feb. 1952. p. 104)

### Workmen's Compensation

*State Workmen's Compensation Legislation in 1951.* (In Monthly Labor Review, Jan 1952. p. 51)

## Calling All Pioneers!

—From page 23

membership if it so desires, and to do such other acts as will promote the object for which it is established.

The committee appointed was made up of the following men:

Dr. Charles P. Neill, U. S. Commissioner of Labor.

Dr. Joseph A. Holmes, Director, Bureau of Mines.

Charles C. McChord, Interstate Commerce Commission.

F. W. Houk, Commissioner of Labor, Minnesota.

Dr. L. W. Chaney, Department of Commerce and Labor.

H. M. Wilson, Bureau of Mines.

Dr. M. J. Shields, National Red Cross.

C. W. Price, Wisconsin Industrial Commission.

James T. McLeary, Iron & Steel Institute.

John Kirby, Jr., National Association of Manufacturers.

Ralph C. Richards, Chicago and North Western Railway.

C. L. Close, U. S. Steel Corporation Safety Committee.

F. C. Schwedman, National Association of Manufacturers.

David Von Schaak, Aetna Life Insurance Co.

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Lew R. Palmer, Association of Iron & Steel Electrical Engineers.

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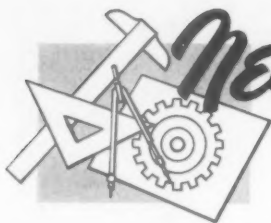
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## Plastic Lenses

American Optical Co., Southbridge, Mass., announces the development of plastic safety lenses made in a new air-conditioned room where the lenses are scientifically "baked" in glass molds. The plastic lenses are half the weight of their glass counterpart and extraordinarily resistant to breakage.



Production of the eye-saving lenses has been inaugurated in the company's Brattleboro, Vt., plant where technicians work in the specially built and equipped room. The new room was built in order to eliminate dust that shows up in plastic lenses and affects their appearance and quality. This setup, combined with a new chemical formula and new manufacturing techniques for the lenses, produces protective lenses that are optically perfect, according to the company.



Tests showed the lenses to be highly resistant to such eye hazards as splashing chemicals, welding spatter, emery wheel

sparks, and the impact of hard, small, high velocity particles; as well as lens fogging caused by steamy work conditions. The lenses are made by combining certain chemicals with a thermosetting liquid plastic which solidifies under heat and has more scratch resistance than previous optical plastics. The mixture is placed in precisely curved glass molds and "baked" in a special oven under a carefully controlled heating and time cycle.

In laboratory tests it was discovered the lenses survive the impact of a nine-ounce steel ball dropped from a height of nearly four feet; an ounce-and-a-half steel needle dropped from a height of more than four feet; and a small projectile traveling at a speed of close to 100 feet a second.

## Liquid Sweeping Compound

Sanitreet is a new liquid sweeping compound that is put in a mop, it spreads evenly, is thoroughly absorbed and ready for action. It assures that every inch of surface reached by the mop receives an efficient cleaning treatment. A treated mop is easy to clean. Shaking removes dust and a water rinse restores cleanliness. It can be used on soft, composition or hard floor surfaces.

Containing wax, this compound is good to use on all types of floor surfaces and gives added protection to the surface as it cleans. It can also be used to clean walls, woodwork and furniture.

The compound attracts, emulsifies and imprisons all kinds of dust and keeps floors clean between scrubbing. A product developed by Chemical Service of Baltimore, Howard and West Sts., Baltimore, Md.

## Lens Cleaner Dispenser

A new pocket-size K-Lens-M dispenser called Twinkit, an individual plastic kit containing K-Lens-M lens cleaner and anti-fogging liquid, has been introduced by the Wilkins Co., Inc., Cortland, N. Y.



The dispenser has been designed for individual, off-premise use of lens cleaner by those who wear glasses or goggles. The

lens cleaner and anti-fogging liquid have long been used by workers in industrial plants. The pocket-size non-spill container will be especially useful to linemen, road workers, truck drivers, construction crews, field men, and others who work outside the plant in all kinds of weather. With the kit, a drop of the lens cleaner can be shaken on each lens and wiped with a tissue; then a drop of the anti-fogging liquid is shaken on each lens and polished clear. One application usually lasts a full work day or longer.

## Connecting Links

The introduction of a "universal" design in Wedglok safety connecting links for carbon and alloy chain users has been announced by the Interstate Drop Forge Co., 4001 North 27th St., Milwaukee 9, Wis.

Only two sizes of the links are needed to connect any size chain from 1/4" to 3/4", depending upon the type of chain used. Thus, users need not maintain complicated stocks for making chain or wire rope connections or emergency repairs.



These links permit users to make up chain slings from running lengths of chain. They can assemble slings quickly on the job to fit their exact needs. The links are available in sizes up to 3 inches. They are used in material handling, chain operations, industrial plants, logging and on construction work.

## Dust Respirator

Designed to provide a high degree of user comfort, 10 recently engineered advances are incorporated in a new dust respirator announced by Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh 8, Pa.

The new respirator, Dustfoe No. 55, weighs only 2 3/4 ounces. Breathing resistance has been cut in half. A 50 per cent reduction in width of the filter holder eliminates a "blind-spot" area and greatly

# New safety equipment for industry

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.



increases downward vision. Simple construction of the assembly allows for quick changing of filters and easy replacement of parts. The formable aluminum facepiece is readily molded to all normal face contours and the replaceable face cushion conforms to all facial lines to assure a tight seal without uncomfortable pressure. The pre-formed throw-away filter is shaped



to fit the filter holder. The filter is made of charged resin-treated felt which creates a static electrical field and supplements the mechanical filtering action by trapping dust particles. The air intake is located at the lowest point of the respirator so that the counter-gravity flow cuts down the entry of heavier dust particles, thus extending the life of the filter. The "speed-lok" holds the filter assembly firmly in place, yet can be readily removed for filter changes. The filter holder is of injection-molded nylon, noted for its strength, and resistance to heat, abrasion and chemical agents.

The inhalation valves may be instantly installed or removed; filter edges are exposed to observation for positive filter seal; positioning pins accurately locate filter to assure proper seating; shielded exhalation valves fit snugly at bottom of facepiece; and the gasket ring snaps into place providing a positive hold.

## Floor Patching

A floor patching material called Permamix incorporating many new features is now ready for distribution by the Permamix Corp., 228 North LaSalle St., Chicago 1.

Permamix can be used on any present type flooring and is ready for instant use as it comes from the container. It sets instantly; traffic can be resumed at once without shutdowns or delays waiting for it to set. There is no danger of tempera-

ture damage to the patched area. It comes in 50 lb. drums.

Ease of application is one of its advantages. There are three steps to follow: first, clean hole to be patched and spread primer supplied in drum, second, fill in with Permamix, and third, tamp solidly and dust with cement or floor dust. Traffic may be resumed at once.

## Industrial Cleaner

The Vibro-Pneumatic Cleaner which operates from a compressed air source has a patented vibrating air valve that creates by the jet principle an agitating suction, which forces dirt and metal particles into a container. The dirt container is supported on the back by a convenient belt and harness assembly and is encircled in a fabric shield. By operating a second of two finger-tip control valves, a vibrating external air jet is created. This jet is directed forward through an orifice in the cleaner head to dislodge dirt and metal particles from inaccessible places to spots where they can be picked up by instantly changing to a suction action.

Air consumption is reduced to a minimum because of the vibrating valve action that cuts off air supply 2000 times per minute. The cleaner head is polished aluminum and the wands are lightweight tub-



ing. The cleaner is more efficient than conventional steady suction types because the agitating suction dislodges and collects dirt and metal particles that steady suction will not pick up. It operates from any compressed air source of 80 p.s.i. and up.

Standard nozzle width of 5, 8 and 10 in. can be had. Special designs will be made to suit customer requirements. Total weight of the Pick-A-Back unit complete is 7½ lbs. Several sizes of casted tank models from 20 gallons to 55 gallons can be had for wet or dry cleaning operations. This industrial cleaner can be used in most industries such as aircraft, automobile, car

service stations, bus line maintenance, railway maintenance, ship maintenance and building, textile, power plants, chemical, food processing, bakeries, metal working, machine shops, foundries, and woodworking.

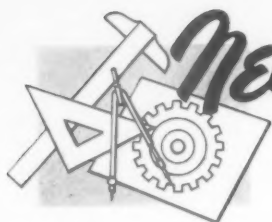
For further information write Vibro-Pneumatic Cleaner Co., 518 Maccahees Bldg., Detroit 2, Mich.

## Fire Detection

A fire detection-alarm system for industrial or public buildings that gives fast, accurate warnings has been developed by Walter Kidde & Co., Inc., 1020 Main St., Belleville, N. J. The apparatus works on the temperature-rate-of-rise principle. Any undue temperature rise in a protected space causes expansion of air in copper tubing mounted on the ceiling of the room. The two ends of the tube terminate at a detector. This expanded air moving in opposite directions through the tubing enters the detector and acts on two opposing diaphragms. The pressure forces them together and closes an electrical circuit which sounds an alarm.



Special design of the detector eliminates the possibility of false alarms from normal temperature changes and sudden, short surges of heat. Such air pressure increases are compensated for by two hollow, closed cylinders which cushion any sudden or momentary expansion of air in the circuit. These cylinders pass the air up through breathers which release it to the outside atmosphere at a predetermined rate. A slow gradual rise, or a sudden but momentary rise in temperature resulting in an expansion of air in the tubing will not actuate the detector since any moderate excess air reaching the detector can be absorbed by the compensator cylinders and gradually discharged. However, an ab-



# New safety equipment for industry

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normal continued rise in temperature, such as fire produces, causes the air to expand in the circuit faster than the breathers can discharge it. As a result, the pressure is passed on to the diaphragms which are forced together, actuating the alarm.

The system is self-supervising. A self-charging wet battery electrical supply automatically cuts in, if outside power fails, and a warning signal sounds. The batteries deliver up to 60 hours of emergency power for the system.

Detection can be zoned to give the exact location of the danger, so that fire extinguishing equipment can be brought into use without loss of time. It will sound a local alarm or transmit the warning to a central fire station. The alarm circuit can be connected to a municipal fire headquarters, so that an alarm is transmitted there as soon as the system detects fire. At the same time, the system will electrically control the stopping of motors, fans, blowers, closing of doors, etc.

The illustration shows the main control board of a typical fire detection-alarm system. Here, a fire signal from any area of the building is received and electrically analyzed. The board then causes alarms to sound, the area of the building containing fire is registered on strategically located visual indicators, and an alert is flashed to the municipal fire department. The small bell and the box above it comprise the battery-powered auxiliary electrical supply. The system is approved by Underwriters' Laboratories and meets all requirements of state laws and alarm systems in public buildings.

## Abrasive Paint

A safe-footing product, known as Oil-Dri "Non-Slip" paint, is now being marketed by Oil-Dri Corporation of America, 520 North Michigan Ave., Chicago 11. The paint contains abrasive material which affords traction and provides non-slip footing on surfaces indoors or out. The paint



is recommended for use in factories, machine shops, washrooms, restaurant kitchens, etc. It is also suitable for truckbeds, running boards, catwalks, stairtreads and fire escapes.

The product brushes on easily and dries quickly on any type of surface: concrete, wood, terrazzo, rubber, marble, etc. It is packaged in three colors: grey, tile red and black. It is also available in other colors on special order. Standard container sizes are 1-qt., 1-gal., and 5-gal.

## Steel Rolling Doors

An innovation in metal rolling doors for commercial and industrial applications while retaining the sound basic construction of this type of door, has been announced by The Kinnear Manufacturing Co., Columbus, Ohio. Narrow, transparent panes of heavy-duty plastic are now available in one or more of the interlocking steel slats of these doors that coil upward



above the lintel. This fenestration in the door closure is reported to offer new benefits applicable to many different sites where more interior light is required or vision to the outside is desirable.

The "window slats" at or near eye level permit anyone inside a building to see who is on the outside of the door before opening it. Also, they allow entry of daylight.

Kinnear rolling doors are constructed of open-hearth steel interlocking slats, heavily galvanized, and equipped with end-locks that maintain alignment. The resilient slats resist damaging effects of horizontal and vertical forces. The metal curtain travels in steel guides and coils upon a barrel journaled in heavy-duty brackets. These doors, installed in old or new buildings, can be of any reasonable size limited only by practical engineering and operating factors. To further adapt these doors to any commercial and industrial need, they can be equipped for operation manually, mechanically, or by motor, with remote control from any number of electric pushbutton stations.

## Floor Surface Reinforcement

Acme Steel Co., 2840 Archer Ave., Chicago 8, announces the availability in limited supply of floor plate, an 11 $\frac{1}{2}$ -in.-square plate of .068-in. hot-rolled steel designed for reinforcement of concrete floor surfaces that are constantly subjected to heavy loads.

Floor plate can be quickly installed as a new floor surface or over old floors. Each plate contains 100 small rectangular holes and 100 barbed prongs. These prongs anchor the plate firmly to the concrete 100 times per square foot. The four rounded edges of each plate form a flange that



becomes imbedded in the concrete and adds rigidity to the plate. Floor plate has no sharp edges and cannot work loose. Area-wise, the surface of a concrete floor reinforced with this plate is 74 per cent steel and 26 per cent concrete. Thus, steel is always under traffic, protecting the floor surface.

Because they were designed to fill one-foot increments of floor area, there is no need for cutting to fit these plates around posts, machinery and corners. Floors protected with floor plate are slip resisting, wet or dry, because the exposed concrete provides resistance.

For new floors, after a dry concrete topping mixture is poured over the base slab and screeded, plates are pressed into the topping until pillows of concrete extrude upward through the holes. Plates are then leveled with floor surfaces and each other with 2 x 4 lumber. Finishing, to remove excess concrete, is accomplished with the edge of a steel trowel or a piece of folded burlap to remove excess concrete.

When installing floor plate over old concrete floors, the floor is first chipped to a depth of approximately two inches and a slush bond coat brushed into the chipped surface before the topping mix is poured. When sections of floors must be removed to repair plumbing, steam and electrical lines, etc., any plate or combination of plates can be removed without disturbing the rest of the floor surface. Because one floor plate is installed for every square foot of floor area, determination of quantities needed for an installation is simple. Plates are packaged in cartons of 20.

# New safety equipment for industry



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## Chisel Grip

A safety chisel grip developed by Rose Manufacturing Co., 1731 Arapahoe St., Denver 2, Colo., is designed for holding chisels of various sizes.

The chisel grip is fully adjusted and is made in two sizes to take the majority of chisels, punches, gouges, marking dies, test tubes and the like. The chisel or other object is clamped firmly in a shock absorbing band so that little or none of the driving impact is transferred to the hand. The lightweight metal hand piece allows a full hand grip and protects fingers.

For speed in handling, the only adjustment is the large wing nut at the end of the hand grip. The gripping band is a long wearing, shock absorbing woven fibre. The tool is designed for maximum visibility of working area and is sold through safety dealers.



## Floor Cleaning Machine

The new Finnell Model 218G Combination Scrubber-Vac machine features a self-starting gas engine designed for power, smooth operation, and durability. All working parts of the machine are driven through non-slip timing belts by a 2 cylinder, 4 cycle, 9.4 HP gas engine. Designed for large area scrubbing, the 218G applies the cleanser, scrubs, rinses if required, and damp dries the floor, all in a single operation. It is capable of scrubbing up to 16,000 square feet per hour, depending upon the amount of dirt, congestion in the area, etc. Maximum forward speed is 136



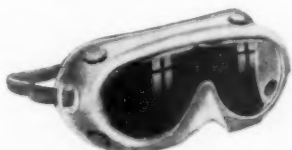
feet per minute. Two 18" brushes mounted on universal type couplings give a 36" scrubbing surface. Long engine life and low upkeep cost are assured because of the engine's low RPM (2400 at 9.4 HP),

Since the machine is started by pushing a button, operators will shut it off when called away. This prevents idling and resultant carbonizing that causes engine trouble. Gasoline alone is used in the fuel tank.

Another feature includes the Finnell developed clutch, multiple friction disc type of bronze and hardened steel. Slight pressure on the finger-tip clutch handle propels the machine at any rate desired, up to 136 feet per minute. A two stage turbine fan provides a powerful vacuum to quickly remove grease and sludge loosened from the floor. Available at a little extra cost is an Oxy-Catalyst monoxide eliminator. This machine is a product of Finnell System, Inc., Elkhart, Ind.

## Acid Safety Goggle

A new acid safety goggle, named "Du-Chem," features a bright yellow vinyl frame, the American Standards Association color for acids, which affords quick identification of it as an acid goggle. Light weight and genuine comfort are claimed through the use of new materials such as velvet soft vinyl frames and vinyl optical plastic lens.



The bright yellow frame is soft enough to mold in a tight seal to facial contours and has maximum resistance to acids and alkalis. Metal hoods over screen vents offer safe, adequate ventilation. The one-piece lens is made from a special vinyl acid resistant optical plastic which will not stain or discolor from acid fumes, vapors or splashes. The lens is replaceable and can be quickly and easily removed. It is optically correct and meets Federal Specifications for impact resistance.

The manufacturer claims that the goggle offers full protection from all chemical splashes and dusts. It will fit over personal glasses and because of its extreme light weight (a little over one ounce) and attractive appearance, it should receive employee acceptance. It is manufactured by United States Safety Service Co., 1331 Oak St., Kansas City, Mo.

## Water Repellent

A new formula of masonry water repellents with a silicone base has been developed by the Ranetite Manufacturing Co.,

Inc., 1917 South Broadway, St. Louis 4, Mo.

The new silicone base water repellent is for surface application to exterior, above grade masonry. It is quick to develop repellency after application and may be used on most types of masonry; it can be applied either by spraying or brushing at temperatures as low as freezing; it is effective against efflorescence; causes no change in masonry appearance; penetrates deeply to insure durability; non-sealing of masonry pores, allowing the masonry to "breathe." Oil base paints adhere to it and do not impair the water repellency of the underlying mortar.

## Flexible Hose

The American Ventilating Hose Co., 100 Park Ave., New York 17, announces the development of a lightweight, flexible hose made with neoprene compounds and laminated nylon chafer duck. For pressure



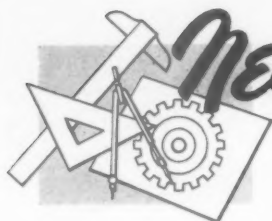
and vacuum services, this wire-reinforced Flexaust type is used in operations involving abrasive dust collection, heavy flexing and gravity feeds. Size range 1½" to 24" inside diameters.

## Area Health Monitor

A new instrument that detects and records dangerous gamma radiations in an area and sounds an alarm when average tolerance limits are exceeded has been announced by the Meter and Instrument Department of the General Electric Co., Schenectady 5, N. Y.

Called an "area health monitor," the device provides instantaneous indication of radiation, total radiation received in any preset period, and a 30-day integrated record of the radiation present in the immediate vicinity of the detector in 15-minute intervals. It also contains a means of telemetering the rate of radiation to remotely located indicating stations.

In operation, the monitor measures and records the gamma or x-ray's ionizing potential—the important factor in determining the effect that radiation will have on human tissue. According to G-E engineers, it is designed as an addition to the present safety and civilian-defense equipment in-



# New safety equipment for industry

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stalled in laboratories, atomic-energy plants, hospitals, water works, and other areas requiring records of x-ray or gamma radiations. The new monitor is not meant to replace personnel film badges or chambers carried by workers who frequent places where radioactivity is present, but rather to monitor whole areas.

The standard equipment consists of an air wall ionization chamber, a d-c amplifier, and a six-foot instrument panel that incorporates a torque-balance converter, a watt-hour-meter mechanism, a rate indicator, a cyclometer counter, and a recording device. Since the monitor uses an air equivalent ionization chamber as its primary source, it is not dependent upon the energy of the source, the engineers said.

## Valve Covers

New valves and flange covers, designed to provide protection against leakage without hindering normal operation, have been introduced by Mine Safety Appliances Co., Braddock, Thomas & Meade Sts., Pittsburgh 8, Pa.



Made of Dynel, a staple fabric which is highly resistant to acids as well as caustics, the covers, called ChemKovers, are said to have sufficient strength to contain sprays resulting from gasket or packing failures in pressurized lines. This feature protects workers in the immediate area of such lines. The fabric has inherent qualities which give it the resistant properties desired. It will not support combustion and is easily cleaned. These covers require no special tools to install and can be removed easily and quickly when lines require repair. They are designed to fit all styles and sizes of valves and flanges. Complete details have been published in Bulletin No. CF-27, available by writing the manufacturer.

## Floor Scarifier

A new, hydraulically-equipped floor scarifier that removes heavy grime from large trucking aisles has been developed by the G. H. Tennant Co., 2550 N. Second St., Minneapolis 11, Minn. It cuts a 36" path—shears off and picks up layers of

grease, dirt and metal cuttings at speeds up to 11 MPH. Its capacity is said to range from 20,000 to 60,000 sq. ft. per hour.

High-speed cleaning is provided by a scarifying cylinder with a smoothing or "planing" action. It helps level humps and leaves floors smooth, dry and firm-surfaced. No water, chemicals or detergents are needed. A 36" wire brush, with



twisted tufts of steel wire, shears off heavy soilage—such as packed layers of dirt and grease. Powered by a 25 HP, air-cooled engine, the wire brush spins at 1400 rpm. It hurls loosened grime into a built-in, 10 cu. ft. dirt hopper. At the same time, a powerful vacuum fan draws lighter dirt and dust into a heavy fabric bag. Brush (of 20-, 26-, or 30-gauge steel wire) can be reversed end-for-end on the machine for sharpening.

Another accessory, the Revo-tool cylinder, pulverizes extra heavy soilage—like metal chips, dried paint or varnish, tar and cement splashes. It contains hundreds of tool steel cutters, and can also be used to score concrete for new topping. The dirt hopper is hydraulically controlled. In 18 seconds, it is claimed, an operator can lift and dump average loads of 530 lbs. He raises the hopper to a 35" clearance, then dumps it directly into a tote or trash box, without extra handling. By pushing a lever, he controls the "bite" of the brush into floor soilage hydraulically, too. In seconds he raises or lowers the brush to get the desired pressure and contact with floor surfaces.

With a 4-speed transmission, the operator can slow to 1 MPH in busy aisles and speed up to 11 MPH in open areas. He can maneuver easily in tight spots. A 4-cylinder, 25 HP engine propels the machine, which is driven through both rear wheels.

## Circuit Extension

A series of approved portable branch circuit extensions that literally roll power, light, or heat to any location in industrial maintenance work, on temporary assembly lines, on construction jobs, or in underground construction and repairs has been announced by National Electric Products Corp., Chamber of Commerce Bldg., Pittsburgh 19, Pa. Known as the NE Rolladuct series, the devices, which are collapsible, are portable and may be carried on public utility service trucks. The series includes a power and light unit, a strip of flood lighting and a strip of infra-red heating units. Engineered for electrical safety, the strips are fully grounded and are provided with a circuit breaker incorporated in the strip for full work protection.

The portable assembly consists of a 3' 10" strip of No. 1700 Surface duct, also a National Electric product. This is swivel-mounted on an all-steel tubular carriage. The unit's wheels are made of special materials that are non-conductive, and which resist chemicals, moisture and oil, and are especially rugged to withstand wear.

The carriage-mounted duct is carried on a ball-and-socket swivel that locks into any horizontal or vertical position. It may be elevated to a height of 5½ feet, or the carriage may be collapsed to roll under jobs. The portable assembly is provided with a 21-ft. power line of three-conductor, heavy duty Indestructo cable. The neoprene jacketing, which is rugged and resists chemicals, acids and physical abuse, is safe to use in wet or damp places. The carriage mounted units carry an approved rating from 20 ampere loads for 115 or 220 volt operations.

Designed to eliminate the need for relocation of light and power outlets to meet the varying needs and demands of assembly lines, the unit supplies light, power, or heat at locations where the wiring system is not convenient for use. One of the units carries eight outlets plus two flood-light sockets, and reportedly is ideal for all portable power tool use.



## Flooring Material

A new product known as Rubber-Coat Skid-Grip floor compound has been developed by Wilbur & Williams Co., 130 Lin-

# New safety equipment for industry

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coln St., Boston 35, which is a maximum non-slip, heavy traffic resistant flooring material that can be applied by a brush and yet gives a heavy or thick film to resist abrasion and skidding.

The product, which has been tested and listed by Underwriters' Laboratories, has a paint-like base with which is mixed a filler of grit. It is made in several different colors and is intended to be applied to floors, stair treads, ramps, etc., in industrial, marine and domestic occupancies.

## Pallet Truck

Hand lift pallet trucks from the Philadelphia Division, Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, are now available with a dual-purpose superstructure that will enable them to handle 7 and 12 inch skids as well as single- or double-faced pallets.



When the superstructure is in a raised position, it is clamped vertically to provide a backrest for the pallet load on the truck. When lowered, it is adjustable to either 7 inch or 12 inch skid heights by a simple cam and slot arrangement. This truck is suitable for plants where there is not sufficient volume of either skids or pallets to keep a specialized truck for each busy or where flexibility is desired because of varying loads.

The truck is available in either mechanical or hydraulic lifts. Platform trucks can be similarly equipped so that they can handle several sizes of skids.

## Floor Finish

The Keystone Chemical Co., Cleveland 13, Ohio, announces a water emulsion plastic floor finish known as Lustre Seal which gives a non-slip hard floor coating that protects and preserves all types of floors and flooring. The product carries the Underwriters' Laboratories seal.

## Safety Hooks

Brummel Hook Co., 1619 W. Winona Chicago 40, has recently developed a new type "quick-connector" safety hook for attaching or detaching lines to other lines, wire rope, rope or chain or to fixed objects.

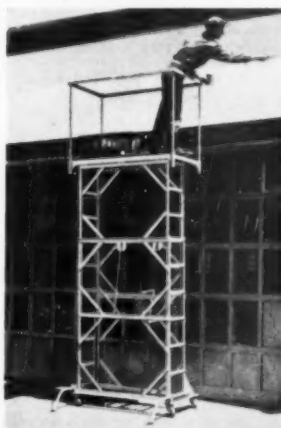


They are instantly joined or detached by a turn of the fingers. Once joined they cannot come apart until intentionally disconnected.

Some of the uses are on power press safety harness, safety belts, entrance guards, tarpaulin lashings, towing, die block hoisting, etc. They are advantageous for many applications in materials handling such as connectors for hoists, slings, braces, guy wires, crane cables, and the like.

## Portable Work Platform

Atlas Industrial Corp., 849 39th St., Brooklyn 32, N. Y., announces a new portable work platform made to reach a 22-ft. ceiling. Comes in one piece with no erection required, no loose parts. This safe,



sturdy servicer is easily rolled, easily raised. It is a compact unit small enough to pass through any ordinary doorway. The all-welded steel construction means safety; outrigger brace prevents tilting or

rolling. The platform is a compact, individual unit always ready for work. It is ideal for overhead maintenance, painting, lighting, cleaning, etc.

## Heat-Repelling Glove

Designed to protect the hands of workers exposed to radiated heat conditions, a new, durable asbestos aluminum-lined reversible mitt has been announced by the Milburn Co., 3246 E. Woodbridge Ave., Detroit, Mich.

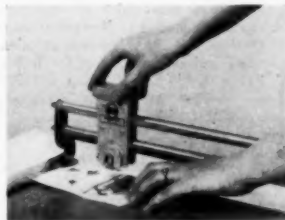


Constructed of a sheet of aluminum-coated fabric between two layers of heavy asbestos, the glove is jersey lined, providing maximum heat resistance, without causing skin irritation. Experimental tests show that the mitt reflects up to 90 per cent of radiated heat. The asbestos is specially treated to afford high abrasive resistance.

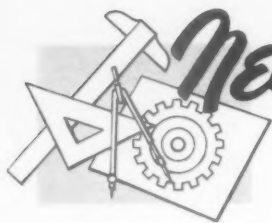
The mitt can be useful in such operations as steel mills, forge plants, heat treating and glass manufacturing, for safe handling of hot castings, molds, and similar objects.

## Safety Trimmer

The Dex Safety Trimmer is an instrument to cut paper, film, sheet plastic and lightweight bookbinders cloth easily and



with safety. It will cut on a straight line in either direction. The scale is accurately divided into 1/16" and is square with



# New safety equipment for industry

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cutting edge. The circular cutter is covered by a guard that protects the hands. The trimmer is light in weight. The 24" model weighs only 16 lbs. and may be stored out of the way when not in use. Larger models are available up to full 42" cut.

The straight edge is ground on all four sides. If the edge in use becomes damaged, another smooth, new edge may be brought into position. The trimmer is manufactured by Dex Trimmer, P. O. Box 1224, Los Altos, Calif.

## News Items

Wheeler Protective Apparel, Inc., manufacturers of industrial safety clothing since 1911, has expanded to another floor in the Bauer Building, 224 West Huron St., Chicago 10. The company has doubled its space and personnel, modernizing plant interiors to include fluorescent lighting, new flooring and washroom facilities. Attractive lunchrooms and locker rooms for employees are located on both floors. Offices and cutting room are located on the sixth floor. Cutting room equipment includes new cutting tables and machines, power trolleys, automatic cloth laying machine and hoist. Sewing, assembly and shipping are done on the second floor.

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Davis Emergency Equipment Co., 45 Hallett St., Newark, N. J., announces the elevation of two widely known personalities in the safety field to the positions of president and vice president.



The new president is Frank R. Davis, Jr., who started in the shipping department 19 years ago on a tour of duty which took him through all the various departments of the company. He went to the Chicago office in 1937 and was placed in charge of the San Francisco office in 1942, a year which brought him back to the home office in Newark as manager of industrial safety equipment sales. He became general manager of the Industrial Safety Equipment Division in 1948 and vice president in 1949. As president, he succeeds his father, Frank R. Davis, Sr., who founded the company in 1921.

Fielding Taylor, Jr., is now vice president in charge of the Instrument Division. He came to the company in 1941 and replaced the younger Davis in



the San Francisco office in 1942, and in 1948 became general manager of the company's Instrument Division.

The elder Davis continues active in company management as chairman of the board. Continuing as treasurer is a 25-year veteran, Thomas A. Woolsey.

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The accompanying view shows the charred remains of B. F. McDonald Company's Los Angeles plant, the aftermath of a \$1,000,000 fire. In less than three weeks, by using the facilities of two spe-



cial standby plants and undamaged offices, the safety clothing and equipment firm was back to pre-fire production levels.

\*\*\*

Eclipse Fuel Engineering Co. has just moved into its new, modern factory and office building which extends an entire city block on Buchanan St., from Morgan to Loomis in Rockford, Ill. It occupies 95,200 square feet all on one floor. This expansion triples the plant's former quarters.



One of the problems solved in the new building is the combining under one roof of highly diversified activities. These include the building of heat treating and melting furnaces, the construction of steam boilers, the fabricating and assembling of combustion accessories such as burners, valves, mixers, blowers, governors and diluters; and the distribution of meter parts and accessories.

\*\*\*

Opening of a new regional sales office and warehouse building in Atlanta, Ga., is announced by Minnesota Mining & Manufacturing Co. The new facilities, designed to permit better service to customers in Georgia and neighboring states, are located at 732 Ashby St., N.W.

George E. Steck has been southeastern cellophane tape sales manager for 3M since 1948.

Russell D. Baird, formerly office manager at High Point, N. C., has been named to a similar post in Atlanta.

\*\*\*

Lewis-Shepard Products, Inc., Watertown, Mass., has announced the appointment of David W. Niven as advertising manager. Mr. Niven has been in the advertising promotion department of Life since 1945 and was manager of service to advertisers during the past 4 years.

\*\*\*

The Surty Manufacturing Co., Inc., 4139 West Kinzie St., Chicago, Ill., announces the acquisition of the Guarding Co., 6200 Wentworth Ave., Chicago, manufacturers of safety devices for power presses. The Guarding Co. will continue to operate at their present location.

K. M. Fowler has been elected president and brings both insurance and industrial experience in the safety field, having been manager of the safety department of a large casualty company.

\*\*\*

P. N. Burkard, former director of technical service for the J. B. Ford Division of Wyandotte Chemicals Corp., Wyandotte, Mich., now heads the company's Industrial Railroad and Aircraft Department. Donald E. Anderson, former assistant director of technical service, now heads this department. Mr. Burkard succeeds Dr. Roy Heath. Robert J. Racine continues as manager, industrial sales.

Mr. Burkard joined the research staff of Wyandotte Chemicals Corp. in 1938, transferred to the J. B. Ford Technical Service Department in '41, and became director of this activity in 1946.

Mr. Anderson has been a member of the following Wyandotte Chemicals departments since joining the company in 1940—research, plant research, development, technical service and engineering.



Left to right: James I. Ramsey, manager, railroad sales; P. N. Burkard; Robert J. Racine.

# Trade publications

in the safety field



These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.

1. "Eye Protection": Catalog contains a complete line of industrial lenses, goggles, face shields, helmets and accessories. Directions for measuring goggle sizes and recommendations for protection against specific types of hazard are included. American Optical Co.

2. "Factory Identification": Illustrated folder on identification displays for industrial plants describes a program by which display units are tailored to meet the specific requirements of each plant. Federal Enterprises, Inc.

3. Noise Elimination: Pamphlet discusses the control of disturbing noise in factories, especially those caused by air conditioning, compressors, diesel and jet engines, generators and similar types of machinery. Industrial Acoustics Co.

4. "Materials Handling Equipment": Clark Catalog describes fork-lifts, towing tractors, hand and platform trucks, stackers, and various attachments. Visual cross reference charts present weight, capacity and other specifications at a glance. Clark Equipment Co.

5. "Orthopedic Fracture Equipment": Illustrated catalog lists a first aid unit for industry as well as a complete line of equipment for the orthopedic surgeon. The unit includes tourniquet, litter, splints and other equipment. Orthopedic Equipment Co.

6. "Arco Rubber Processors": Folder presents various methods of rubber processing; illustrations show lining, hand-dipping, semi-automatic dipping and the production of partially rubber items, insulated items, molded and die-cut parts. Arco Rubber Processors.

7. "Four Steps Toward Better Electroplating on Steel": A 44-page booklet describes four steps for obtaining specific improvements in the cleaning cycle of low-carbon or high-carbon steel before electroplating. Oakite Products, Inc.

8. "Tree Trimming Equipment and Metal Cutting Shears": Catalog No. 32 lists a complete line of tree trimming equipment and accessories. Described also are heavy metal shears, bench shears and snips. Bartlett Mfg. Co.

9. "Better Tools for Electrical Maintenance": Catalog description includes commutator stones and equipment, voltage and circuit testers, polarity indicator, lo-volt equipment, hi-amp test load, fuse specialties, industrial cleaners and accessories. Sittler Corp.

10. "Dust and Fume Control": Catalog No. 72-B describes the Dustube Collectors which feature cloth filtration. Complete specifications, construction and installation drawings of the various models are given. American Wheelabrator & Equipment Corp.

11. "Fire Fighting Products": Rockwood Catalog offers technical data on a line of portable fire fighting equipment including various type nozzles, valves, applicators, extension units, foam liquids and wetting agents. Rockwood Sprinkler Co.

12. Steam Cleaner and Process Heat Generator: Illustrated leaflet features the "Hypressure Jenny" steam cleaner and heat generator. Specifications and description cover the trailer-mounted portable and stationary models. Homestead Valve Mfg. Co.

13. Safety Cans and Industrial Lanterns: Justrite Catalog No. 581-R includes literature on safety and oily waste cans. The illustrated catalog describes a line of utility lights, safety lights, railroad lanterns and carbide lamps. Justrite Mfg. Co.

14. Aircraft Cable, Terminals and Assemblies: Catalog A-2 gives description, illustrations and specifications of "Hi-Fatigue" control cable for all type aircraft, terminals, and tie rods. Made in conformity with government specifications. Macwhyte Co.

15. "Skydrol": A 20-page booklet describes the general properties of "Skydrol," a synthetic nonflammable type hydraulic fluid, and gives laboratory evaluation data on lubricity, stability, resistance to ignition, toxicity, etc. Monsanto Chemical Co.

16. Washroom Compartments and Hardware: Literature on toilet, shower and dressing compartments and hardware gives specifications and installation layouts. Non-metallic compartments for installations where steel cannot be furnished, are featured. Sanymetal Products Co., Inc.

17. "Dust Collectors": Torit Catalog describes cabinet and cyclone type dust collectors, fittings and accessories. Blueprint sketches give dimensions of collectors which range in size from  $\frac{1}{2}$  hp to 5 hp. Torit Mfg. Co.

18. "Civil Defense Protective Equipment": Booklet lists a complete line of equipment for C.D. services arranged in table-form both as to service needs and equipment functions. Mine Safety Appliances Co.

19. Chairs and Stools for Industry: Illustrated leaflet announces the Ajustrite line of tubular steel base, readily adjusted chairs and stools. Among the specifications given is the adjustment range of each model. Ajusto Equipment Co.

20. "Off the Cuff": Yale and Towne magazine has feature-reports on materials handling in a meat packing firm and grocery warehouse. The efficient handling of steel in various forms is illustrated. Yale & Towne Mfg. Co.

21. Vapor Control: Bulletin No. 622 reports on vapor extraction from machines and their working environs by self-contained, unit type collectors. Specifications and installation of collectors included. Agat-Detroit Co.

## NATIONAL SAFETY NEWS

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APRIL, 1952

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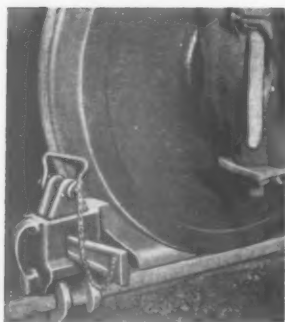
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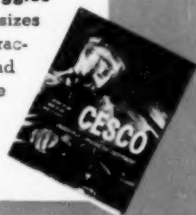


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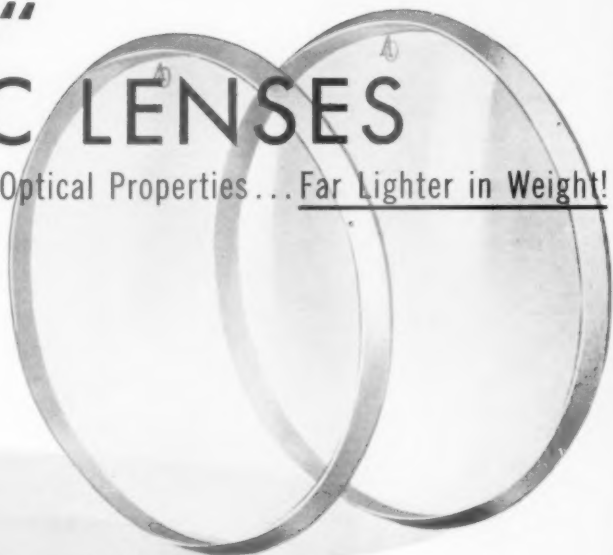
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